

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week

Gags of the Week

Out of Our Mailbag

Meet Me in St. Louis, Looney

Ten, Too, in Saint Lou?

Ivory Towers—And their Tenants

Add Husband-and-Wife Stories

Story of the Week

"Hello-o-o-o," sang out a cheery voice on the telephone. "How do you feel this bright and sunshiny morning?"

"Great, wonderful," boomed out the man on the other end of the wire. Ten seconds elapsed.

"Uh, er," backtracked the Cheery Voice. "Pardon me. I must have the wrong number."

Gags of the Week

When a girl looks good in a bathing suit, men usually look good, too.

It isn't true that every sad woman you meet on the street has loved and lost. Maybe she landed him.

WHY WE'RE LATE

The strike of railroad yardmen and the subsequent embargoes put in force by various postoffices on all but first class mail will probably cause a delay in the delivery of this issue of Air Conditioning & Refrigeration News.

As this Dec. 18 issue goes to press, the strike and embargoes are still in effect, so it is impossible to predict how long delivery will be delayed. So, please remember that if this issue seems terribly late in getting to you, the fault is not really ours.

Out of Our Mailbag

Nor-Lake, Incorporated
Second and Elm Streets
Hudson, Wis.

Editor:

Carl Norelius, one of the partners in Nor-Lake Refrigeration, has a young son by the name of Allen who at the age of six years is following his father's foot-steps as far as mechanical ability is concerned.

A short time ago, during a session at the dinner table, two older children were asking Allen the sum of the figures which they would mention. For instance, $2 + 2 = 4$; $3 + 4 = 7$.

In the midst of the questioning the sum of 3 and 1 was mentioned. Allen piped up: "That's machine oil."

I thought this was pretty good for a six year old so I am passing it on to you.

DON STEVENS
Sales Manager

Det A, 8031st RPE SU
APo 503

PM San Francisco, Calif.

Editor:

Your item on "Sound Money" disturbs me. It is very contrary to your item a week before on "The Private Enterprise System," which I approve completely. Prof. Leland R. Robinson, New York university is obviously in error. And you quote him.

1. Since the United States became the WORLD'S BANKER should we return to the private gold standard? That is, go off the UNITED GOLD STANDARD, ESTABLISHED 18 years ago; such act would pitch the entire world of free people into bankruptcy.

2. Nothing could be more pleasing to the enemies of the American way of life. Had Hitler instead of Washington, D. C. gotten control of the WORLD'S gold market before World War II, where would America be today?

3. Gold has always been government money: never controllable as private money. Prof. Robinson simply proposes to let any private persons who have enough resources, purchase the gold and so grab control of our government.

This is a rational conclusion from the reasons which Prof. Robinson presented.

(Concluded on Page 10, Column 3)

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DETROIT



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Open-Type Units Not Subject to 10% Excise Tax

WASHINGTON, D. C.—Belt driven, open type condensing units are not subject to the 10% manufacturers' excise tax on components of home freezers, the Refrigeration Equipment Manufacturers Association learned from the Bureau of Internal Revenue recently.

In addition, no exemption certificate is required covering the sale of such units, the bureau said.

If this type of condensing unit is sold as part of a complete household type refrigerator or freezer, however, the charge for the condensing unit is included in the total sales price of the refrigerator or freezer, which is taxable.

This information clears up one point of confusion relating to the home freezer excise tax. But many others still remain.

Because of the all-inclusiveness of the tax law on home freezer components, many condensing unit manufacturers felt that they had to collect the excise tax on any unit they shipped unless they got:

1. An exemption certificate from the manufacturer or assembler of home freezers to whom they sell, which said in effect that the assembler would pay the tax.

2. A statement from the purchaser of the condensing unit that the use to which the unit would be put is non-taxable, thus shifting the liability from the manufacturer to the purchaser.

WHAT'S AHEAD

For Manufacturers, Distributors, Dealers?

An Analysis of the Probabilities In the Event There's (1) Continued 'State of Emergency' (2) All-Out War

Seldom does Air Conditioning & Refrigeration News run an out-and-out "Dope" story in its news columns. But in the present situation, with all elements of the industry wondering what may happen to their particular business operations, the editors believed it best to present their "educated guess" as to what may happen.

The possibilities for the future course of the industry considered here are based on discussions with industry and government authorities, studies of predictions by such authorities, plus a review of what happened in World War II.

DETROIT—Any analysis of the prospective activity of producers, distributors, and dealers of refrigeration and air conditioning and appliance products, parts, and supplies in the coming months has to be predicated on the matter of our international relations. As the situation lines up now, the United States will find itself in the next few months in either one of the two following situations:

1. A continuation of the "twilight zone" of war (termed a "garrison state") with a continually accelerated program of preparedness. (This would embrace the "state of emergency" expected to be proclaimed soon.)

2. A formally declared, all-out war. While there are some who believe that even with a declared war, many types of wholesale and retail establishments would continue on a "business as usual" policy for the time being, because of fairly sizable inventories in some lines, the odds are thought to be against this. Any declaration of war, most authorities believe, would bring about a freeze of all inventories of finished durable goods, such as refrigeration and air conditioning products and most major appliances, with the stipulation that they be sold only on a priority basis.

So what are the probabilities if the nation continues, not in a state of declared war, but in a "garrison state" of continual and increased military preparations?

1. The manufacturers of refrigeration and air conditioning and appliance products, parts, and supplies.

The predominant thought here is that there will have to be some pretty sharp cuts in production, because of definitely foreseeable shortages in materials, and possibly in manpower. There is some minority thinking which predicts that by spring production of steel and aluminum, in particular, will be out-running demand, and consequently there would be no need for production cutbacks. However, it seems almost certain that some vital materials and components will be short, so that it would be difficult for a manufacturer to produce at 1950 rates even if steel and aluminum should be available.

In the so-called "garrison state" condition it is believed that as much production as possible of civilian goods will be encouraged (1) to keep employment high; and (2) to keep the preparedness program on as much of a pay-as-you-go basis, which can only be possible—with the government debt stretched to its present limits—by maintaining a strong

(Concluded on Page 4, Column 2)

Plan Makes Payments for Customer In Case of Sickness, Strikes

BUFFALO—To offset fears of prospective customers that they will not be able to keep up installment payments on appliances or television because of misfortune, Bestway Stores, Inc., operating four outlets here, has inaugurated a "Payment Protection Policy" which it is offering to every one of its customers.

The policy guarantees payments on appliances or television in the event the customer loses his job, is sick, out on strike, in an accident, or dies.

The firm explained that under this purchase plan, it is the store, not the customer, who takes the risk. Bestway keeps up payments for the purchaser until the latter is back on his feet again and the customer does not have to make up back payments.

Bestway is financing the plan itself, setting aside a reserve for any payments it may have to make, Nat Block of Bowman and Block, Inc.,

'Zero Hour' for Output, Price Curbs Nearing

'Emergency' Would Create Difficult Problems In Manpower and Materials

WASHINGTON, D. C., Dec. 14—While the nation awaited President Truman's talk over the weekend which will probably announce the proclamation of a national emergency, observers here were trying to guess at just what it would mean.

There is agreement on some general matters—military spending and general mobilization will be speeded up, draft calls will be increased very sharply with older men being taken and deferments curtailed sharply, and controls over scarce and strategic materials will be tightened.

But industry is puzzling over what the emergency proclamation will mean in terms of (1) the production and distribution of civilian goods (2) the prices at which such goods will be sold.

1. Prices and wages.

Sentiment in both the administration and congress has hardened very abruptly in the last few days for mandatory price and wage controls. The auto price increases broke down (Concluded on Back Page, Column 3)

F. W. Smith Elected President of Baker

SOUTH WINDHAM, Me.—Election of Frederick W. Smith to the presidency of the Baker Refrigeration Corp., was announced recently by Webster B. Todd, chairman of the board of directors.

Smith joined the Baker organization in January, 1950, as vice president in charge of sales, and in August was named executive vice president.

Smith has completed 25 years in the refrigeration and air conditioning industry. He was previously associated with the company for 10 years.

Christensen Is New ASRE President

NEW YORK CITY—Paul B. Christensen, vice president and chief engineer of Merchants Refrigerating Co., New York City, took office as president of the American Society of Refrigerating Engineers on Dec. 6.

The installation ceremony conducted by retiring president John G. Bergdoll, Jr., vice president and general works manager of York Corp., was one of the concluding events of the 46th annual meeting of the society.

Christensen, a member of ASRE since 1937, is a graduate of Stevens Institute of Technology and joined (Concluded on Back Page, Column 1)

Easing of Reg. W Credit Terms Seen Unlikely Now

WASHINGTON, D. C.—Don't look for any easing of credit restrictions on refrigerators, air conditioners, and major appliances.

That would have to be the conclusion after hearing the testimony last week before the House-Senate Defense Production Watchdog Committee. Federal Reserve Board Chairman McCabe's defense of the present Regulation W got the strong backing (Concluded on Page 4, Column 5)

Exemption Forms for NPA Copper Order Available at Commerce Dept. Offices

WASHINGTON, D. C. — Application forms for exemption or adjustment under the NPA copper use Order M-12 are now available at the U. S. Department of Commerce and may also be obtained from Commerce Field Offices in 44 cities, the National Production Authority has announced.

NPA Form 11 is for copper producers and Form 12 is for copper users.

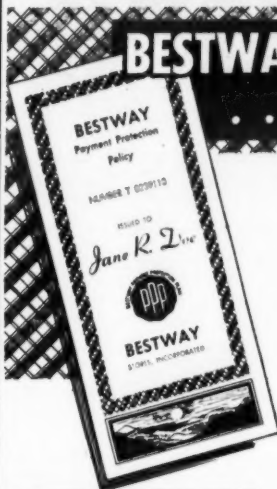
The Copper Order M-12 provides that any producer or user affected by any provision of the order may file a request for adjustment or exception on the grounds that:

1. His business operation was begun during or after the base period (the first six months of 1950).
2. Any provision of the order works an undue or exceptional hardship upon him not generally suffered by others in the same industry.
3. Enforcement against him would not be in the interest of national defense or in the public interest.

NPA pointed out that requirements of the public health and safety, civilian defense, and dislocation of labor and resulting unemployment that would impair the defense program will be considered where requests for adjustments are made on the grounds that the public interest is prejudiced by the order.

Applicants must state on the forms, the nature of the relief sought and also the justification for the request.

BESTWAY—First in America to Give FREE Payment Protection to EVERY CUSTOMER ON EVERY TELEVISION AND MAJOR APPLIANCE PURCHASE!



BESTWAY MAKES YOUR PAYMENTS ... IF YOU LOSE YOUR JOB!

... and you're also protected in the event of unemployment resulting from sickness, injury or accident and further insured against death, according to the terms of the BESTWAY Policy!

1. IF YOU ARE LAID OFF

IF YOU ARE LAID OFF OR LOSE YOUR JOB ... for any reason (including strikes or labor disputes) and are OUT OF WORK FOR 30 CONSECUTIVE DAYS OR LONGER, BESTWAY WILL MAKE YOUR PAYMENTS FOR YOU during the period of your unemployment (not exceeding 2 monthly payments). Bestway's liability under the terms of the policy is to make your payments only while you are out of work and is limited to 60 days or 2 monthly payments on your contract. When you are back at work you DO NOT have to repay Bestway for the payments they made while you were unemployed.

a. If You Get Sick

... if you are out of work 10 days or longer, BESTWAY WILL MAKE YOUR PAYMENTS FOR YOU according to the terms of the policy as outlined above. When you are back at work you DO NOT have to repay Bestway for the payments they made during your illness.

b. If You're in an Accident

... if you are out of work 10 days or longer, BESTWAY WILL MAKE YOUR PAYMENTS FOR YOU according to the terms of the policy as outlined above. When you are back at work you DO NOT have to repay Bestway for the payments they made during your absence from work.

c. In the Event of a Strike

... if you are out of work 10 days or longer, BESTWAY WILL MAKE YOUR PAYMENTS FOR YOU according to the terms of the policy as outlined above. When you are back at work you DO NOT have to repay Bestway for the payments they made during your absence from work.

d. In the Event of Death

... the merchandise purchased from Bestway becomes the property of your family without further payments of any kind.

No Worries About Debts When You Buy at Bestway Stores!

EVERYBODY and we mean EVERYBODY runs into tough luck once in a while. And folks sometimes hesitate to buy that television set or refrigerator they want so badly, for fear that tough luck might put them into debt.

That's why Bestway offers this extraordinary plan. When you buy at Bestway you need not fear tough luck, because BESTWAY TAKES THE RISK!

Store Plan Guarantees Payments--

(Concluded from Page 1)

advertising representatives for the dealership, declared.

He said that the plan has been checked from all angles and has been found to be legal in every respect.

Asked how it fitted in with Regulation W requirements, Block said

the plan was not only legal under Regulation W, but the credit restriction made the plan possible.

He believes that the requirements of 25% down and payment within 15 months brings a credit customer that is such a good risk, the store can afford to take a chance on this

type of policy.

Block said the payment protection policy idea is a copyrighted one.

The Payment Protection Policy is stated in simple language on a numbered policy issued to each purchaser using the plan. It reads:

"1. If you are laid off or lose your job for any reason, including strikes or labor disputes, and are out of work for 30 consecutive days or longer, Bestway will make your payments for you during the period of your unemployment (not exceeding two monthly payments).

"Bestway's liability under the terms of the policy is to make your payments only while you are out of work and is limited to 60 days or two monthly payments on your contract. When you are back at work you do not have to repay Bestway for the payments they made while you were unemployed.

"2. If you get sick and are out of work 30 days or longer, Bestway will make your payments for you according to the terms of the policy as outlined above. When you are well you do not have to repay Bestway for the payments they made during your illness.

"3. In the event of a strike or labor dispute putting you out of work for 30 days or longer, Bestway will make your payments for you according to the terms of the policy as outlined above. When you are back at work you do not have to repay Bestway for the payments they made while you were unemployed.

"4. If you're in an accident and are out of work 30 days or longer, Bestway will make your payments for you according to the terms of the policy as outlined above. When you are back at work you do not have to repay Bestway for the payments they made during your absence from work.

"5. In the event of death, the merchandise purchased from Bestway becomes the property of your family without further payments of any kind."

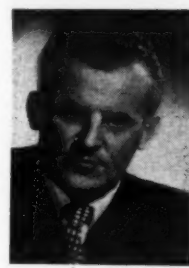
Foss Appointed Assistant To President at UsAirc

MINNEAPOLIS—Charles L. Foss of Larchmont, N. Y., has joined the staff of United States Air Conditioning Corp. as assistant to A. A. Feinberg, president.

Foss was formerly associated with Bankers Trust Co. of New York and the Equipment Manufacturing division of Air Reduction Co., Inc., of New York.

L & H Names Halvorsen Sales Promotion Mgr.

MILWAUKEE—Ralph E. Halvorsen has been appointed sales promotion manager of A. J. Lindemann & Hoverson Co.



here, maker of "Lectro-Host" ranges, refrigerators, home freezers, and water heaters, the company announced.

Halvorsen joined L & H in 1946 as product stylist and since that time has conducted sales training courses and sales promotion meetings and set up various exhibits of "Lectro-Host" home appliances throughout the country.

In his new capacity, Halvorsen will be responsible for the development of new "Lectro-Host" products and their sales promotion.

Thor To Close Cicero Plant for Inventory

CHICAGO—Thor Corp. has announced that shipments of its spinner clothes washers, dishwasher, and gladiators will be suspended from Dec. 29 until Jan. 8 while the company takes its annual physical inventory of its Cicero, Ill. plant.

John R. Hurley, president, who made the announcement, said the closing will not affect shipments of wringer washing machines.

Pickett-Droze Opens In Tulsa

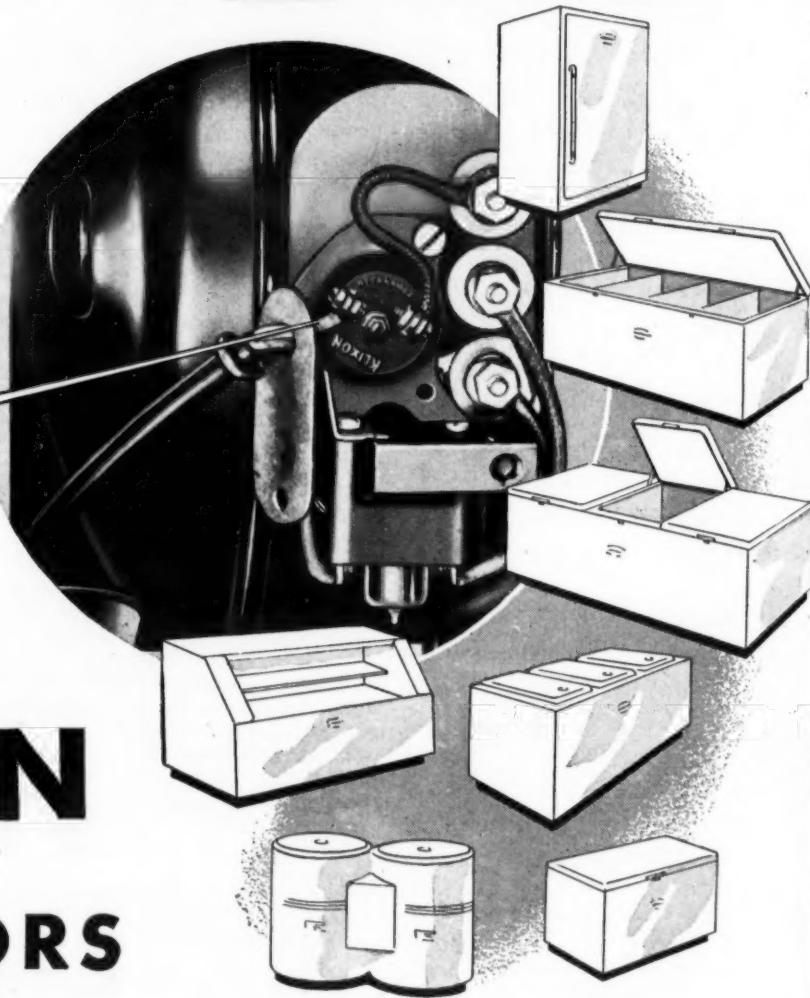
TULSA, Okla.—The Pickett-Droze Appliance Co. opened its new home at 2419 East Admiral Place here recently.

WANTED RESEARCH ENGINEER (28-40) (AIR CONDITIONING—REFRIGERATION)

Leading manufacturer of air conditioning equipment desires Mechanical Engineer with previous experience in Refrigeration Research and Application. Will also supervise employees performing tests in laboratories. Reply Box 58, Detroit 32, Michigan.



PERFORMANCE is the best testimonial



That's why KLIXON Dome-Mounted PROTECTORS are first choice for hermetics

The reason why Klixon dome-mounted Protectors are preferred and used by hermetic manufacturers and users is that they provide positive motor burnout protection.

Hermetic manufacturers build-in Klixon Protectors because they know that these units protect the motor from burning out assuring dependable refrigeration for years on end. In addition, they permit the design of smaller compact hermetics.

Hermetic users prefer units with Klixon Protectors because experience proves that they can get the maximum useable capacity from the motor. This means smaller HP hermetics can often be used ... or the refrigeration capacity of the same unit can be

stepped up permitting the design of greater storage capacities in their cabinets.

Protect your compressors with Klixon Protectors. They will reduce service calls, repairs and build customer satisfaction.



KLIXON MOTOR STARTING RELAYS

These dependable relays complete the combination for starting and protecting the motor. Their positive action and long life eliminate starting troubles. Used and recommended by leading Refrigeration manufacturers.



SPENCER THERMOSTAT Division of Metals & Controls Corporation 2412 FOREST STREET, ATTLEBORO, MASS.

HUSSMANN

REFRIGERATORS--

ARE SCIENTIFICALLY DESIGNED IN BALANCE WITH

HUSSMANN

REFRIGERATION

The complete HUSSMANN Line of Display Refrigerators is designed to meet every selling need in the modern food store. And, balanced to HUSSMANN Refrigeration Systems, each unit is designed to meet every Refrigeration need, as well! You can recommend HUSSMANN with complete confidence.

HUSSMANN

HUSSMANN Refrigeration, Inc. • Hussmann Bldg. • St. Louis 6, Mo.
Ruddy Freeborn Co., Ltd., Brantford, Ont., Hussmann Canadian Subsidiary

Don't miss FRIGIDAIRE'S Big Christmas Eve TV Show



STARRING
BOB HOPE

with distinguished guest

MRS. ELEANOR ROOSEVELT

A full hour of star-studded
entertainment with

LILY PONS

—Famous Metropolitan Opera soprano

CHARLES BOYER

—Popular motion picture star

ROBERT MAXWELL

—World famous harpist

FAMOUS BOYS' CHOIR

—From Cathedral of St. John the Divine



"Live" Telecast over these 42 NBC Stations
December 24—8:00 to 9:00 P. M. (E. S. T.)

Atlanta	WSB-TV	Kansas City	WDAF-TV
Ames	WOI-TV	Lancaster	WGAL-TV
Baltimore	WBAL-TV	Lansing	WJIM-TV
Birmingham	WBRC-TV	Louisville	WAVE-TV
Bloomington	WTTV	Memphis	WMCT
Boston	WBZ-TV	Milwaukee	WTMJ-TV
Buffalo	WBEN-TV	Minn.-St. Paul	KSTP-TV
Charlotte	WBTW	Nashville	WSM-TV
Chicago	WNBQ	New York	WNBT
Cincinnati	WLW-TV	Norfolk	WTAR-TV
Cleveland	WNBK	Omaha	WOW-TV
Columbus	WLW-C	Philadelphia	WPTZ
Davenport	WOC-TV	Providence	WJAR-TV
Dayton	WLW-D	Richmond	WTVR
Detroit	WWJ-TV	Rochester	WHAM-TV
Greensboro	WFMY-TV	St. Louis	KSD-TV
Grand Rapids	WLAV-TV	Schenectady	KGTV
Huntington	WSAZ-TV	Syracuse	WSYR-TV
Indianapolis	WFBM-TV	Utica	WKTV
Jacksonville	WMBR-TV	Washington	WNBW
Johnstown	WJAC-TV	Wilmington	WDEL-TV

Plus re-telecast at later date over
these 15 NBC Stations

Albuquerque	KOB-TV	Sun., Jan. 14	8:00- 9:00 P.M., MST
Binghamton	WNBK-TV	Sun., Jan. 14	8:00- 9:00 P.M., EST
Fort Worth	WBAP-TV	Sun., Jan. 7	7:00- 8:00 P.M., CST
Houston	KPRC-TV	Tues., Jan. 16	10:00-11:00 P.M., CST
Los Angeles	KNBH	Sun., Jan. 7	8:00- 9:00 P.M., PST
Miami	WTVJ	Sun., Jan. 7	8:00- 9:00 P.M., EST
New Orleans	WDSU-TV	Sun., Jan. 14	5:00- 6:00 P.M., CST
Oklahoma City	WKY-TV	Mon., Jan. 15	7:30- 8:30 P.M., CST
Phoenix	KPHO-TV	Sun., Jan. 14	8:00- 9:00 P.M., MST
Salt Lake City	KDYL-TV	Sun., Jan. 14	8:00- 9:00 P.M., MST
San Antonio	WOAI-TV	Sun., Jan. 7	7:00- 8:00 P.M., CST
San Diego	KFMB-TV	Fri., Jan. 5	9:00-10:00 P.M., PST
San Francisco	KRON-TV	Sun., Jan. 7	8:00- 9:00 P.M., PST
Seattle	KING-TV	Sun., Jan. 7	10:30-11:30 P.M., PST
Tulsa	KOTV	Sun., Jan. 7	7:00- 8:00 P.M., CST

Tyler Names Dickie To Merchandising Post

NILES, Mich.—Tyler Fixture Corp. here recently announced the appointment of Jack Dickie as merchandising consultant.



Jack Dickie

Dickie majored in animal husbandry at the University of California and has been in the meat cutting business for the past 28 years.

He has had extensive experience in the pre-packaging of meats and other food products, according to the company.

Finders Co. Boosts Prices On 3 Housewares Items

CHICAGO—Prices on three housewares items manufactured by Finders Mfg. Co. here were raised recently due to higher raw material and labor costs, the company has announced.

The company's broiler was raised from \$22.95 to \$24.95, the fryer from \$24.95 to \$26.95, and the broiler oven from \$29.95 to \$32.50.

Waffle iron production was said to be limited because of raw material shortages.

Manufacturer, Distributor and Dealer Outlook--

(Concluded from Page 1, Column 4)

The larger manufacturers probably wouldn't have too much of a problem taking on and executing military supply contracts, and at the same time producing some percentage of the civilian goods that they ordinarily make.

In very few cases do the larger manufacturers have tools and machines that could readily be converted to the production of a military item. Such manufacturers might have to give up plant space and some key manpower, but they would still have plenty of facilities to make the civilian items—if the government didn't rule out such items, and if materials were available.

And in many instances manufacturers might not have to give up any portion of their present plant space—either making use of, or acquiring unused plant facilities. Cadillac Motor Car Div. of General Motors, for example, has taken a government contract to make tanks, but they will not be made in the plants in which Cadillac automobiles are being produced.

The smaller manufacturer can possibly face a problem that isn't likely to arise with his larger counterpart. Assume that he does some development and experimental work on a government contract, and is then offered the entire job on a basis that would tie up all his manpower, plant, and tool facilities for some time.

Such a condition would then put the small manufacturer out of the civilian market in which his com-

petitors were still operating. There were many instances in World War II in which companies which converted completely to the production of war material lost ground competitively which they never regained. (This was primarily in fields in which some production of their normally produced item was still permitted for essential civilian uses.)

2. Wholesalers and retailers of refrigeration and air conditioning and appliance products, parts, and supplies.

If the restrictions on materials and other developments result in a cut of only 25-30% in the industry's products, many of the leading sales executives are convinced that the problem will not be one of getting enough merchandise produced to supply the demand, but of selling the reduced amount of goods that can be produced. Credit restrictions, some unemployment because of delays in production changeover, and the removal of a good part of the market of the "under 26" men in this country can contribute to this condition.

One bright spot seen in this situation is that both through lack of merchandise and difficulties in selling it, some of the marginal and "chiseling type" retail outlets may fade from the picture.

Generally speaking, the commercial refrigeration and air conditioning contractor should have less problems than the retailer of home appliances. Such loss in markets as may result from new construction should be more than made up by commercial establishments. Operators of the

latter should realize that they can hardly afford to take the gamble of not getting new equipment needed not only right now—but which might be needed in the next several years.

Furthermore, there should be a pickup in the servicing of such equipment, and practically all contractors have good service organizations, which can be enlarged. Never was the time so ripe for the sale of service maintenance contracts, which are a profit-making part of many contractor operations.

Primarily, though, the story for distributors and dealers is that with the currently high production of durable goods which is expected to continue through at least the first quarter of 1951, there will be plenty of goods to sell next year—and the need for hard-hitting promotion and sales effort to sell the goods available.

3. WHAT HAPPENS IN THE EVENT OF A FORMALLY DECLARED, ALL-OUT WAR.

There seems to be general agreement that a declaration of war would bring a complete mobilization program into being immediately, with all-out controls placed on production, facilities, materials, and manpower. It also seems probable that finished consumer durable goods would be placed under a priority and rationing system.

How would the industry fare under such a program?

1. The manufacturers of refrigeration and air conditioning and appliance products, parts, and supplies.

Manufacturers will be pretty much in the position of waiting for the government to tell them what to make, and getting from the government the priorities for materials.

Producers of commercial refrigeration and air conditioning equipment may find that a fair portion of their production may be devoted to refrigeration and air conditioning items for the armed services. A greatly reduced shipbuilding program in present war plans might cut into this potential considerably; on the other hand, towards the end of the last war the armed forces were finding increased uses for refrigeration and air conditioning products.

Many civilian applications of refrigeration and air conditioning products fall into the "essential" class, and production of these items would have to be continued. It would also be necessary to produce repair and replacement parts.

In this connection it is interesting to note the record of York Corp., a leading producer of refrigeration and air conditioning equipment, in World War II. From 1941 through 1945 York supplied in production and services a total dollar volume of \$132,066,138. Of this, \$115,023,061 was in refrigeration and air conditioning products; and only \$17,043,077 for arms, armor, and expendables.

A high percentage of York's wartime refrigeration and air conditioning volume went for the armed forces, of course, but there was considerable production for essential civilian needs, and the whole picture is revealing of the extent to which refrigeration equipment manufacturers may expect to keep on producing products similar to those made in peacetime.

Among the major electrical home appliances, the best case for essentially might be made for home freezers (see this week's editorial). But probably the best chance for any continued production of such items might be surpluses in such basic materials as steel, aluminum, and copper. However, shortages of other key components and a lack of manpower might still block production of civilian goods on any scale.

2. Wholesalers and retailers of refrigeration and air conditioning and appliance products, parts, and supplies.

The conditions of a declared state of war would affect all distributors and dealers in consumer durable goods to some degree. But there would be differences. The commercial refrigeration and air conditioning contractors would probably fare better than those outlets handling items for the home, and contractors near army installations or navy ports could likely fare better than those not so fortunately located.

Then there is also the fact that service and maintenance operations of the refrigeration and air conditioning contractors can produce high dol-

lar volume business. Some contractors in metropolitan centers are said to be falling behind already on meeting demands for yearly maintenance contracts.

In this regard, it might be interesting to recall that one of the leading producers of commercial refrigeration and air conditioning equipment found it necessary to "take care of" only one of its distributors in terms of finding something for him to do during World War II.

Wholesale suppliers of refrigeration and air conditioning parts and supplies should likewise find sufficient volume to keep them going in the case of an all-out war. During World War II many of such firms achieved their greatest growth.

The situation of the appliance distributor and dealer will be dependent on whether or not there will be a sufficient supply of goods for free marketing of such products (probably at fixed prices). Even with a greatly reduced supply they could trim their organizations to keep going, and because of a demand that might be greater than the supply, they could expect to get full price for the merchandise.

If the supply were to be cut off entirely appliance distributors and dealers are faced with the following alternatives; which they turned to during World War II:

1. Maintain a servicing operation.
2. Find other types of products to merchandise.
3. Attempt to use physical facilities for production of some kind of war materials.
4. Any combination of the (1), (2), and (3) activities.
5. Shut up shop for the duration.

Reg. W Easing Unlikely--

(Concluded from Page 1, Column 5)

of National Security Resources Board Chairman Symington.

Under pressure from auto workers' union and congressmen the board might extend payments on autos from 15 to 18 months. But that's about all that would be done now. A "recession" early in 1951 might possibly lead to some easing of the restrictions.

McCabe told the congressional committee that the board is still considering adding "other items" to the list of products covered by Regulation W. This might include electric housewares and jewelry.

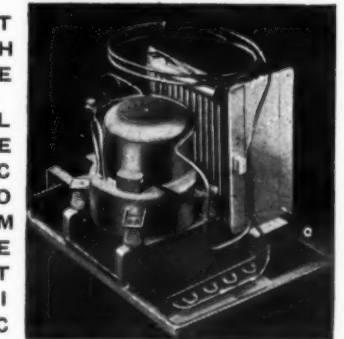
J. P. Evans Gets G-E Post In North Central District

CHICAGO—J. P. Evans has been appointed assistant manager of General Electric appliance sales in the North Central District, it has been announced by J. S. Strecker, district manager.

Evans joined the company at St. Louis in 1939 after 13 years with several utilities and the General Electric Supply Corp. in the appliance merchandising business. Since 1940, he has made his headquarters at Cleveland.

TAKE ADVANTAGE of DEVALUATION

REFRIGERATOR SEALED UNITS ALL VOLTAGES



Now available for the trade at keen prices either with body and starting relay only or complete, ready for immediate installation as depicted above, the "LECOMETIC" suitable for ambient temperatures up to 110° F.

We can also offer standard open type condensing units. Also the "BOILCO" absorption unit operated on paraffin or gas.

ARN SALES DEPT. L.E.C.

Telephone Bognor Regis 2201 1.0 Lines

BOGNOR REGIS ENGLAND

"Mirror-smooth" inside

Packed in individual cartons

Moisture-free
Dirt-free Chip-free
Grease-free

Recommendation for keeping cold

Uniformly soft

Both ends cup-sealed

Accurate O.D. and I.D.

...and for a vibration-free line, use American Vibration Eliminators

See your jobber for ANACONDA Refrigeration Tube and American Vibration Eliminators. Both are products of The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

For dependability ... use

ANACONDA
REFRIGERATION TUBES

High Rate of Error Cited By Navy Purchasing Head In Defense Work Bidding

NEW YORK CITY—Many errors in bids for national defense contracts are being made, according to Lieut. Commander J. T. L. Fox of the Navy Purchasing Office here.

Addressing a recent meeting of the Chemical Specialties Manufacturers Association, Commander Fox declared that about 40% of the bids on some items are not prepared in accordance with Navy requirements.

He said the most serious mistakes are that some bids are not quoted on a "firm price" basis, that delivery dates in other offers are not "firm," and that there have been deviations from specifications for purchased products.

Further, the purchasing office is having difficulty in some cases in securing data essential to handling of insured loans to contractors, Commander Fox pointed out. He said existing facilities must be studied before such loans can be approved.

He urged prospective bidders to raise questions about proposed bidding before bids are sent in, rather than afterward.

Rome-Turney Buys Plant, But Plans Are Indefinite

ROME, N. Y.—Purchase of a two-story plant building in Clark Mills, N. Y., from the Horvath Co., Inc., New York City, was announced by the Rome-Turney Radiator Co. here.

William L. Lynch, president of the Rome firm, said the property was acquired with a view to the future expansion of Rome-Turney. He would not discuss what type of operation was planned for the Clark Mills structure.

"The present shortage of copper does not permit any definite statement of plans," Lynch said.

Rome-Turney manufactures parts for air conditioning devices and copper radiation units for installation in homes and offices.

Self-Serve Idea Catching on In Selling Housewares

CHICAGO—Self-service in housewares has proved so popular in a few test outlets that it will be extended to all housewares sections in all Wieboldt stores next year, L. W. Stratton, divisional vice president and merchandise manager, announced recently.

Under the Wieboldt system, customers can select their choice of 3,850 hardware items and take them to a checkout stand.

Rains Super Market Has Cooling

DALLAS—Air-conditioned, a new Rains Super Market has just opened for business at 2805 Southland.

Minute Maid Revises Retail Delivery Setup For Some Frozen Items

NEW YORK CITY—Frozen orange juice, yeast, and margarine are now being distributed in the New York City area by driver-salesmen on refrigerated trucks, offering direct delivery of these products to retailers, it was reported here recently.

Howard C. Borner, national sales manager for Minute Maid Corp., announced the new distribution plan that is being tested in cooperation with Standard Brands Corp. in Manhattan, Brooklyn, Long Island, and Westchester.

He said, "This new combination of products for distribution purposes may very well bring into being a highly specialized new type of semi-perishable food distribution."

"Because of the limited refrigeration facilities at the store level it has become increasingly important that frequent daily deliveries to the retailers to keep cabinets stocked."

"All three products will be sold

and delivered directly from the Minute Maid trucks, in comparison with previous frozen distribution procedures of taking advance orders for delivery at a later date."

Borner indicated that a successful test here may lead to the expansion of the idea to other parts of the country.

Shovel Proves Business 'Scoop'

WATERTOWN, N. Y.—Watertown Mattress Co., operating appliance stores in five northern New York communities stimulated store traffic and boosted appliance business by offering a free snow shovel with every purchase valued at \$19.95 or more.

The snow shovel offer was made during the first heavy snowfall of the season and was good for a three-day period.

Manuel, Former Wesco Vice President, Dies In West

LOS ANGELES — Burrell S. Manuel, retired vice president of Westinghouse Electric Supply Co. died here Nov. 30 at the age of 71.

Manuel was named Pacific Coast vice president of Wesco in 1945 and retired in 1947. He had joined the company in 1905.

DOLLARS

15 of 'em Pasted on Front Door Snag Store Patrons

INDIANAPOLIS—To create additional interest in home freezers, Robert C. Webber pasted \$15 in brand new \$1 bills on the front door of his Webber Appliance Co., Inc., store here.

Another pane of glass was placed over the bills making it impossible for anyone to take them. Then a small sign was placed above the bills stating that this is the amount you can save each month by owning an adequate size Webber freezer and taking advantage of wholesale prices on large quantities of food.

The idea has created quite a lot of comment and developed sales, Webber declared.

N. Y. G-E Dealers Taking Full Merchandise Quotas

NEW YORK CITY—Full allotments of merchandise were accepted by all but 13 of General Electric Co.'s 360 major appliance dealers in the metropolitan area in a recent week, according to James E. MacCarthy, general manager of General Electric Appliances, Inc.

MacCarthy told a meeting of the local G-E distributing branch that refusals applied to one item in each instance. He said all merchandise turned down was immediately taken by other dealers as additions to their allotments.

Even Hams, Boots Help Sell

TORONTO, Ont., Can.—Harold Smith & Co. here is promoting the sale of appliances as Christmas gifts by offering cowboy boots, a ham, or a turkey free with each appliance purchase.

The bonus offer was good up until Dec. 22. The store promoted the event with newspaper advertising.



Coolerator

A POLICY AND A PLEDGE To Every Franchised Coolerator Dealer

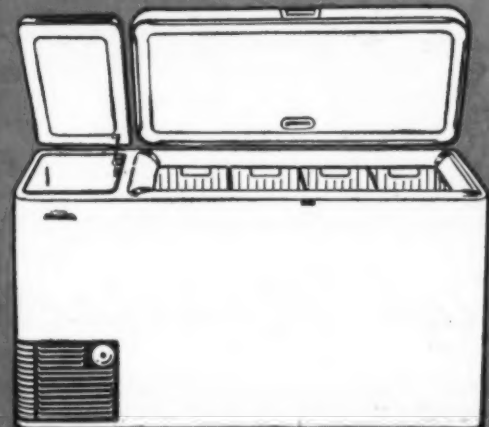
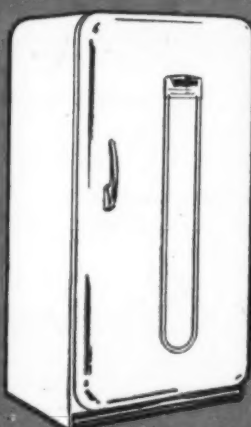
- 1 **CONTROLLED DISTRIBUTION**—Through franchised dealers with every franchised dealer assured his fair share of our production.
- 2 **ADEQUATE TERRITORIES**—For every franchised Coolerator Dealer so he may operate free from the ills of overcrowding to build a sound Coolerator retail operation.
- 3 **FULL MARGINS AND COMPETITIVE PRICES**—To assure every franchised Coolerator Dealer the volume and profit he needs to do a complete merchandising job and build an expanding business.
- 4 **QUALITY PRODUCTS**—With self-apparent advantages that are easy to demonstrate and easy to sell.
- 5 **ADVERTISING**—That will be localized to sell Coolerator appliances to your prospects and will establish your store as Coolerator Headquarters in your community.

Hundreds of dealers have found the Coolerator Profit Protection Plan the answer to their particular problem during the period of uncertainty. Your Coolerator Distributor still has some choice territories open for franchised dealerships. Why not call him today for complete details.

Be Sure to See the New
COOLERATORS for '51
At Space 11-107 Merchandise Mart
During the January Show

THE COOLERATOR COMPANY
DULUTH 1, MINNESOTA
CHICAGO OFFICES: 11-107 MERCHANDISE MART

A FULL LINE OF FLAVOR-SAVER RANGES, SPACE-THRIFTY REFRIGERATORS AND FAMILY-SIZE FREEZERS



a half horse
is better than
a whole horse



want proof?
SEE PAGE...7

Silex To Make, Sell Fresherator Containers

HARTFORD, Conn.—The manufacture and sale of the Fresherator line of vacuum sealed refrigerator containers has been taken over by the Silex Co., here, M. G. Smith, president of the company, has announced.

The Fresherator containers, previously produced by Home Containers Corp., used a patented cover which hermetically seals food against the deteriorating action of oxygen in the air. Perishable items are said to stay fresh for at least 10 days.

Silex will merchandise the containers through the same channels and under the same sales policies as its other products, Smith said.

Chase Supply Acquires More Sales and Warehouse Space

CHICAGO—Chase Supply Co. has recently acquired a modern brick building adjoining its quarters at 546 W. 119th St. here to relieve congestion in its former warehouse.

The newly acquired building makes extensive use of glass brick which blends the two buildings into a continuous frontage of 100 ft. With this expansion, 7,000 sq. ft. of sales floor space has been added.

Winston-Salem Firm Forms

WINSTON-SALEM, N. C.—Tom Slade, Inc., here, has been chartered with authorized capital stock of \$100,000 to sell refrigerating equipment.

Wholesalers Support Detroit Contractors As Group Plans To Increase Membership; Unlicensed Suburban Operators Pose Problem

DETROIT—The support of five local parts wholesalers was assured to the Refrigeration and Air Conditioning Contractors Association of Detroit in its efforts to gather about two thirds of the estimated 350 local contractors into the association.

As a result, an "industry-wide" meeting at which the benefits of association membership will be presented was tentatively scheduled for January. Exact date awaits the availability of speakers.

The assurance was given at a meeting early this month when 25 contractors and wholesalers had supper together to discuss their mutual problems.

SEEKING ADOPTION OF CODES IN SUBURBS

Mike Maksym, association president, appealed to the wholesalers to assist the contractors in building a strong organization that would carry weight in urging local and state governments to adopt a refrigeration code.

One of the vexing problems facing the contractors is that, while Detroit has a refrigeration code and licensing system, most of the suburban communities do not. The association has been able to do little in getting codes adopted in the suburbs because it is not considered by civic authorities to be representative of the trade as a whole.

The lack of a general licensing system, Edward C. Lee, head of Lee Equipment Co., pointed out, gives rise to one of the sore points between contractors and wholesalers.

WHOLESALE'S VIEW

This is the contractors' complaint that wholesalers will sell to persons who are not legitimate contractors and therefore are not entitled to contractors' discounts. Lee pointed out that the wholesaler cannot refuse to sell to a man who says that he is buying equipment to use on a job outside Detroit even if that man does not have a contractor's license.

L. M. Young, president of the Young Supply Co., spoke the sentiments of all wholesalers present when he told the group, "the wholesalers are, and always have been, willing to help the contractors to build a better business. We have to help you to stay in business ourselves."

He urged, however, that the contractors build their association on a solid foundation of honest dealing between themselves and their wholesalers.

Joe Oberc, president of J. M. Oberc, Inc., reiterated what the other suppliers had said and added the suggestion that the local group get back into the national contractors organization. He said that they would go farther faster by going

along with the national group than by trying to go it alone.

"Don't worry about wholesaler cooperation," Oberc declared. "We need you fellows and your strong organization. Particularly in this period of national emergency."

"Do you know what the National Production Authority told an industry committee when the committee went before it to plead our case? They said, 'What refrigeration industry? We have plenty of lakes and rivers from which to get ice.' That is what they think of your refrigeration industry in Washington."

DUES REDUCTION URGED

Oberc and others urged the association in its drive for new members to reduce its dues to where the small contractor can afford to join. He pointed out that most contractors cannot afford to pay \$125 per year to belong.

One of the questions discussed at the meeting was what should a fair mark-up be on goods sold by a contractor. Though there was considerable sentiment expressed in favor of having a single retail price for each piece of refrigeration equipment, Oberc gave the group this formula:

"To be successful, you must figure the cost of your goods, plus your operating cost, plus your profit—and then you must collect your money. You make no profit at all until you collect your money."

Maksym announced at the meeting that John Phene, local attorney, had been retained as legal counsel for the association.

ADVERTISING PLANS

Tom Quinn, head of the advertising committee, pointed out that the association is now preparing advertising that will be run in local trade papers read by butchers, grocers, bar owners, and others who use the services of refrigeration contractors.

The advertising will urge the trade to "Play safe, insure against trouble. Refrigeration systems employ chemicals and chemicals can be dangerous. Call a competent and experienced mechanic who is a member of the Refrigeration and Air Conditioning Contractors Association of Detroit."

A list of the members appears in the advertisement.

Charles Heemstra, president of the refrigeration bowling league, announced that the league would stage its mid-season party in the Wardell-Sheraton hotel on Jan. 13. Tickets to the dinner and entertainment are \$3.50 to bowlers and \$6 to non-bowlers.

National Cooler Corp. Moves to New Quarters

CLEVELAND—National Cooler Corp., here, manufacturer of stainless steel and metal restaurant equipment and refrigerated food and beverage coolers, has moved to new quarters at 2404 Prospect Ave., it was announced by William Drosd, head of the firm.

The company's former location was at 1600 Woodland Ave.

A one-floor operation and additional power-operated machinery are features at the new location.

The company also announced that it recently completed several kitchen and restaurant installations at various Naval bases in the country.

Among National Cooler's products are the standard (economy slant top) dry beverage cooler, the "Miracool" (flat top cooler), and the "Champion" (deluxe cooler). In addition, the firm manufactures sandwich and salad units, work tables, water coolers, urn stands, workboards, etc.

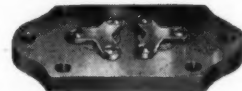
Servicemen!

FOR MAXIMUM
EFFICIENCY
USE

CHICAGO SEALS AND
VALVE PLATES



Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.



Only Chicago valve plates have replaceable seats. Replacements for over 340 compressor models.

CHICAGO SEAL CO.
332 S. HOYNE AVE. CHICAGO 12, ILL.



As a fitting climax to a year of
constructive progress,
the LEHIGH TEAM
takes pride and pleasure in announcing
an important addition to its
line of "America's Most Modern
Condensing Units"

Lehigh BLU-COLD HERMETIC UNITS

IMMEDIATE
DELIVERY



Model HD3C — 1/3 H.P. CAPACITOR

1/4 H.P.
LOW TORQUE
—
1/2 H.P.
LOW TORQUE
—
1/4 H.P.
CAPACITOR
—
1/2 H.P.
CAPACITOR
—
1/2 H.P.
115V. CAPACITOR
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1/2 H.P.
230V. CAPACITOR



Lehigh Manufacturing Co. Plant: LANCASTER, PA.

Write for Descriptive
Literature and Price List

Export Department
39 BROADWAY, New York 6, N. Y.

First Aid for Cooling Water Troubles

...MICROMET

Micromet prevents lime scale, controls corrosion in evaporative condensers and coolers . . . cooling towers . . . humidifiers . . . air washers. Micromet forestalls clogged or rusted coils and piping . . . cuts maintenance costs 'way down.

Leading engineers and manufacturers use Micromet to increase the efficiency and service life of equipment that uses, or comes in contact, with water. Micromet—a slowly soluble vitreous phosphate—is introduced automatically into your water supply through simple, inexpensive feeders . . . capable of conditioning up to a million gallons of water a month.

Tell us about *your* water troubles and write today for our free Air Conditioning Booklet.

CALGON, INC.

HAGAN BUILDING

PITTSBURGH 30, PA.

New Products Help York Earnings Show 32% Gain for Year

YORK, Pa.—Improved manufacturing methods and newly-designed products largely account for the 32% gain in net earnings of York Corp., it was stated upon issuance of the company's annual statement for the year ending Sept. 30, 1950. The company also reported a 13% increase in orders booked.

Completed sales for the year amounted to \$49,088,198. Earnings after provisions for taxes at the increased rates effective July 1, 1950, were \$2,139,445, equivalent to \$13.37 per share of preferred stock. After provisions for preferred dividends, earnings on the common stock total \$1.91 per share.

York President Stewart E. Lauer told stockholders that the largest increase in orders booked was for air conditioning products and installations.

Lauer noted that following the outbreak of the Korean war there was a substantial increase in contract orders, some of which were written at the then existing price levels. Since Korea, prices have been raised to cover wage increases and cost increases in materials and components bought from suppliers.

Working capital showed a gain of \$774,852 over the 1949 figure. Current assets were 3.64 times current liabilities and the company's mortgage debt was reduced \$598,000, leaving a long-term debt of \$5,477,000.

Labor-management relations continued to be harmonious, the company citing its 76th consecutive non-strike year. Employment in York's two major plants was upped by more than 17%.

Important developments during the year, cited by the company, were the application of refrigeration to the rapidly growing business of citrus fruit concentrate processing and storage, and York's receipt of one of the largest civilian orders in the company's history came from a leading food chain.

Lauer declared that sales were further stimulated by the introduction of an advanced design of ammonia refrigeration machine. Orders were doubled for turbo units which are chiefly used in large comfort air conditioning systems and in the textile, chemical, oil refinery, and aircraft industries, and on passenger ships.

York's new and smaller automatic, hermetically sealed, ice making unit, designed for a broader market, including the armed forces, was cleared for production, "subject to our ability to secure materials which may be in short supply as a result of the national defense program," Lauer stated.

All subsidiary companies showed strong increases. York Distributors, Inc., of New York, reported an increase in sales of 42% over the previous year, while York Shipley Ltd. of London, England, increased sales by almost 13%, and at the \$2.80 pound sterling reported an annual sales figure of \$1,891,817.

York's acquisition of control of Westerlin & Campbell Co. of Chicago, midwest distributor of air conditioning and refrigeration equipment, came too late for their earnings to be included in the annual report. However, this new subsidiary doing \$6,000,000 annually, \$3,000,000 of which is in York equipment, is expected to substantially increase York earnings.

Westerlin & Campbell is now marketing and servicing the complete York line in Indiana, Michigan, Minnesota, North Dakota, Wisconsin, in addition to the northern half of Illinois.

York believes that its 1951 outlook is strongly affected by worldwide forces, but that the type of plant facilities added since World War II should enable the company to take on many more defense orders, particularly for items requiring repetitive production in large quantities. At present York is executing some important orders carrying "DO" ratings under the national defense program.

Bakery Makes Heavy Use of Refrigeration

Installation of Air Conditioner, Water Coolers Help Control Dough Processing

BROOKLYN—In a plant modernization program that has spanned several years, the Henry S. Levy & Sons, Inc., bakery here has acquired two Yorkaire air conditioning units and three York condensing units, York Distributors, Inc., of Long Island City stated in a report recently.

The bakery, which operates throughout Brooklyn and Queens, is using a Yorkaire model 550 for office air conditioning and a Yorkaire model 350 to assist dough fermentation in the proof room. The latter unit does its job by maintaining a

dry bulb temperature of 82° and keeps the relative humidity at 85 per cent.

A model 30HW condensing unit is joined up with a Filtrine water cooler to provide pure water properly cooled for dough mixing.

In addition, a 10HW unit is currently acting as a standby in this operation, but will later go to work on expanding production requirements.

Another 30HW is linked up with Baudelot-type water tanks to water cool the dough mixer jackets, the report indicated.

Texas Refrigeration Plans Move to New Dallas Site

DALLAS—Texas Refrigeration & Engineering Co. is planning to move from 4030 Swiss to a new air conditioned building under construction at 158 Express in the Trinity Industrial District.

The new building is expected to be ready for occupancy about Feb. 1. In its new location the company will have 5,000 sq. ft. of floor space, which will be a considerable addition to its present space. The company operates throughout the state, performing contract and engineering service for air conditioning, refrigeration, and installation of frozen food locker plants.

It also specializes in church air conditioning. J. W. Beatty is Dallas manager.

half-a-horse

is better than
a whole horse!



Model 2906

... but only in a Sherer refrigerated display case where a 1/2 HP condensing unit easily does the same work for which other makes require 3/4, 1 HP and even up to 1 1/2 HP units.

THESE EXCLUSIVE SHERER-FEATURES MAKE IT POSSIBLE:

atomized air

... triple-screened air flow provides maximum circulation of conditioned air for merchandise in the "King-size" display wells and eliminates dehydrating "blast."

re-circulated air

... provides for re-use of chilled air, rather than for drawing-in a continuous fresh supply of warm air.

directional flow

... air-ducts, baffles and air atomizing screen, control and direct the air flow where it is wanted — over and around the merchandise on display. Sherer cases refrigerate the merchandise, not the outside air.

these exclusive SHERER features result in:

SAVING on initial cost

SAVING on power (1/2 HP uses less)

SAVING up to 15% in running time

Plus better refrigeration, better looking displays that sell more foods and move merchandise faster, greater profit from the same floor area.



A COMPLETE LINE OF REFRIGERATED DISPLAY CASES

SHERER-GILLET COMPANY, Dept. AC, MARSHALL, MICHIGAN

Serving THE REFRIGERATION INDUSTRY Since 1919



Specify Acme For Top Performance

FREON SHELL AND TUBE CONDENSERS

DRY-EX WATER CHILLERS

HI-PEAK WATER COOLERS

FREON SHELL AND COIL CONDENSERS

HEAT EXCHANGERS OIL SEPARATORS

INDUCED DRAFT COOLING TOWERS*

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BLO-COLD INDUSTRIAL UNIT COOLERS

PIPE AND FIN COILS

AMMONIA CONDENSERS

*A new Acme product with outstanding features. Write for Catalog No. 40.

Write for free catalog on any of the above items.

ACME INDUSTRIES Inc. JACKSON • MICHIGAN

Representatives in principal cities

If you want these Sherer exclusives helping your sales write for:

FRANCHISE INFORMATION

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Address _____

City _____

State _____

Engineering Pays Off

Resort City Offers Variety of Problems— And Sales Possibilities for the Alert Firm

By C. Dale Mericle

There's more to this business than apple storage jobs, however, not the least of which is servicing. The fact that Garthe started out servicing has led to some interesting experiences and a good many sales.

"Not long after we first started up our business here back in 1944, the Coast Guard walked in to tell us there was urgent need for a refrigeration serviceman on Beaver Island, the largest island in Lake Michigan, which lies 75 miles north.

"So," he says, "we packed up the tool kit and hired a pilot to fly up to the island. That's the quickest and only way to get to some of these places in our territory. Well, we took care of the service problems without any difficulty worth remembering and were all set to fly back to Traverse City. But by this time the weather had closed in, and it was three days before we could get out."

GROUNDED, MAKES 5 SALES

The time was not exactly wasted, however, for Garthe and the pilot were royally entertained, and on top of that, he sold a walk-in, two display cases, and two freezers among the some 350 year-round inhabitants.

He's made several trips to that island since then on both sales and service calls, and now has a considerable amount of equipment there.

Garthe also has made quite a hit on North Manitou island, the second largest in Lake Michigan and some 25 miles to the northwest from his headquarters.

Anyone who hunts deer has probably heard of this spot, which is largely owned by a syndicate that maintains a large hunting lodge and its own private herd of some 1,200 deer.

"We have a deer breeder's license, and we guarantee a deer for every hunter," explains Jack Hadra, who manages the lodge. "If the hunter doesn't shoot a deer for him-

PART 2

TRAVERSE CITY, Mich.—Operating a household appliance and commercial refrigeration firm in this well known city, Paul Garthe, Frigidaire dealer, finds a wide variety of prospects providing year-round opportunities. Last week's article reviewed his many sales promotion activities and his booming apple storage business. The accompanying text and pictures bring out some unique commercial applications.

self, we'll ship him one."

It shouldn't be hard to miss, for deer can be seen from the door of the lodge. In fact, we spotted eight close by the lodge during the brief visit to the island which Garthe had arranged.

Hunters, however, have to go at least a mile from the house before they start shooting, according to Hadra.

"It's not that they won't find deer any closer, but we don't want the house or ourselves shot up," he explains.

The reason for Garthe's first being called over to the island he finds somewhat paradoxical.

"Here's this island, so completely surrounded by ice in winter that it's inaccessible except by air, and they want me to come over to figure on the installation of ice-making equipment."

It seems, Garthe went on, there are seven private cottages on the island not owned by the syndicate. The only power available is that produced by the diesel-powered generating plant at the lodge, but this isn't big enough to handle that many electric refrigerators so ice must be used.

"What we did was to install a 300-lb. Frigidaire ice maker powered by a 3/4-hp. Frigidaire unit. This is fitted with 12 25-lb. cans which are filled with water. They usually freeze in less than 24 hours, and the lodge's generator has adequate capacity for this machine.

"To illustrate some of our problems here, to get this equipment

over to the island we had to truck it to a ferry for the trip across. After we had it loaded on the ferry I drove the 35 miles back to the Traverse City airport, took a plane, and was on the island dock some time before the ferry arrived."

Since the installation of the ice maker, Garthe has also installed a walk-in cooler in the same building for holding deer under refrigeration before they're shipped to the mainland. This, too, is powered by a 3/4-hp. unit which is located next to the one supplying the ice maker.

To prevent both units being operated at the same time, which would impose too great a load on the island's generating system, a double-pole, double-throw knife switch is in the line to the two units. Thus only one can be in operation at a time.

"This arrangement causes no inconvenience," Garthe explains, "because the deer cooler is used only in the fall and winter when there's little if any need for running the ice maker. In the warmer months when ice must be made, the walk-in is not in use."

Not all of Garthe's installations, though, involve long trips by plane or car. There's an interesting one just a block away from his store on Front St. in Boughy's, the local bottler of soft drinks.

Here the problem was to devise a cooler to control temperature of the syrup that is fed into the bottling machine. To maintain even control over the carbonating process, bottling firms find it advisable to control rather closely the temperature

of the water. The warmer the water the less carbon dioxide it absorbs, so the general practice is to use water at about 38° F. for bottling.

If the water is cooled but the syrup which is added to it before carbonation is not cooled, then there will be variations in the fill of water and degree of carbonation achieved, it was pointed out. From the practical standpoint, the syrup should be less than 20° warmer than the water, say 50° to 55° F. if 38° F. water is being used.

At Boughy's there's a 1-in. stainless steel syrup line which runs from the mixing room on the second floor to the bottling machine on the first floor. It's hung close to the ceiling of the first floor. Garthe installed a 10-ft. length of 1-5/8-in. copper tube around this syrup line with a tee at each end, and then insulated it.

CEILING UNIT COOLS SYRUP

A 1/2-hp. Frigidaire self-contained circular Meter-Miser was then suspended from the ceiling close to the syrup cooler, and the liquid and suction lines connected to the tee's. According to officials of the bottling company, the cooler has proved very satisfactory.

To solve another liquid cooling problem, Garthe worked out a somewhat unusual arrangement for Charles and Ray Fiebing, who operate the Ideal Dairy in Traverse City.

This was a question of getting proper oil return in the refrigerating system for a 3,000-gal. bulk storage tank which cools milk in large quantities. There is a 5-hp. condensing unit connected to an evaporator within the tank, the evaporator being curved to conform to the side of the tank.

The tank, approximately 10 ft. long, slopes 3 in. over its entire length to improve drainage of the milk, but this slope played hob with the evaporator.

"The evaporator plate was of dimpled construction, which meant that there was no clearly defined path for the refrigerant," Garthe explains. "This prevented the refrigerant from sweeping the oil out of the low end of the evaporator. Consequently oil accumulated at the low end until it occupied at least a third of the plate. This gave two problems—the compressor was running dry because the oil wasn't being returned, and second, the effective evaporator surface was greatly reduced with consequent loss of refrigeration."

AUTOMATIC OIL DRAIN

As worked out by Garthe, the solution involved running a 3/8-in. soft copper line from the low end of the evaporator to the suction line, but with a temperature regulating valve in the oil drain line to insure automatic oil return. Feeler bulb of the valve is wrapped to the 3/8-in. line where it comes out of the tank.

Bulb pressure responds to temperature of the oil drain line, of course, so what happens is this: If oil has accumulated in the evaporator and the drain line, it warms the bulb and thus opens the valve. This permits the oil to return to the suction line. But when all the oil has drained out, refrigerant starts coming through the drain line. The cold refrigerant cools the feeler bulb, which then closes the valve.

Originally, Garthe merely installed a hand valve in the line, which was to open manually to let oil drain out.

"After we were sure this would work we put in the temperature regulating valve so the oil would be drained automatically," he points out.

When the Fiebing brothers found they needed a second bulk storage tank, they and Garthe brought this oil return problem to the tank manufacturer's attention with the suggestion that changes be made in the evaporator. The condition was much improved, they report, by using a plate evaporator with proper channeling which would permit the refrigerant to sweep the oil through it.

Just to be on the safe side, however, a similar oil return hookup was

incorporated in the new tank's system, but here only a hand valve is employed. At infrequent intervals the valve is opened manually to return any oil that may have accumulated.

Not directly concerned with the refrigeration circuit but interesting nonetheless is the unusual arrangement of a beer cooler at Ralph Courtade's beverage store.

The cooler itself is pretty standard, except for its height of only 5 ft. 4 in. (Courtade is small but wiry), and the refrigeration system installed by Garthe is conventional in design. But Garthe did inspire the unique feature.

HOIST AIDS BEER SALES

Located in the basement, the cooler presented a problem in loading and unloading. Taking his cue from a somewhat similar setup at Garthe's store, Courtade designed an elevator for the cooler which is operated by a Budget electric hoist.

Floor and top of the elevator which holds eight half-barrels or 42 cases, are held together with four vertical iron tie-rods, cross-braced at the rear. The spacing is such that when the elevator is lowered all the way, the top rests on the first floor while the bottom is on the floor of the beer cooler below. Door gasketing ensures a tight seal in this position.

When the elevator is raised all the way, the floor of the elevator is flush with the floor of the back room. Elevator floor was built with a butcher door type of sealing wedge to provide a seal against heat leakage. Guiding the elevator are four steel pipes, one at each corner. Chain of the hoist hooks into the top of the elevator, the hoist itself having an automatic stop so it can't pull the elevator higher than it's supposed to go. The hoisting operation is manually controlled by pull ropes.

'DROP-IN' COOLER POPULAR

"The beer drivers love it," beams Courtade, "and we call it our 'drop-in' cooler."

At Garthe's own store the elevator is at the rear and runs in two channel iron guides. No sealing is involved because it's used to raise and lower refrigerators and other appliances from the first floor to the basement repair shop.

The repair shop is an important part of Garthe's operations because service has always played such a big role here. Although compact due to lack of floor space, the shop is unusually complete, including even a small paint spray booth.

Recently Garthe was appointed by Frigidaire as an authorized sealed unit repair depot, an operation which involves such equipment as a bake oven. For this operation the complete household sealed system (or the whole refrigerator if more convenient) is sent in to the shop where it is thoroughly examined and tested. If the Meter-Miser itself requires repair, Garthe substitutes a new one or a factory rebuilt unit. But the rest of the system is completely repaired, cleaned, and evacuated, the critical charge pumped in when the whole system is finished. Then the assembly is put under test.

REBUILT UNITS SELL

"We do pretty well at rebuilding trade-ins, too," Garthe admits. "During the busy season we accumulate these boxes and then when things slow down during the winter we rebuild them or salvage as many of the parts as possible. This salvage is very helpful in repairing the old boxes."

"Besides," he points out, "where we're located you can't run down to the wholesaler's if you need a part. We have to keep a good stock of all items on hand. Right now we have \$10,000 worth of parts, including motors, controls, etc., in our basement stockroom."

Keeping track of this much investment alone is important to Garthe's keeping his business in good financial shape. Bookkeeping all too often is

(Concluded on next page)

You name the problem **ALCO** has the answer—and the right valve

MOTOR OVERLOAD PROTECTION?
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Type 760 Evaporator Regulator maintains evaporator pressure. Prevents freezing, icing and de-humidification. Ideal for Butter and Milk Boxes, Meat Boxes, Candy Cases, Flower Cases, Vegetable Cases and Water Coolers.

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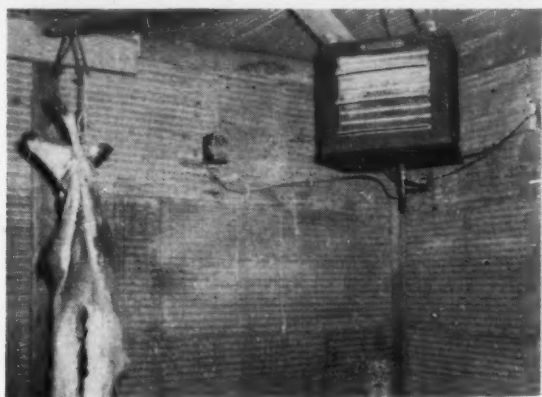
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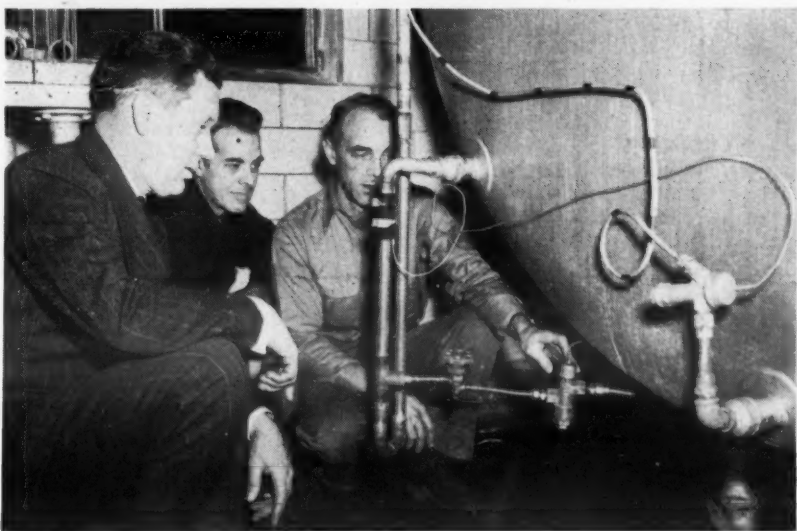


FLYING SERVICE trips from Traverse City to islands in Lake Michigan are fairly frequent for Paul Garthe, shown here loading a 1/2-hp. Frigidaire sealed unit on the plane.



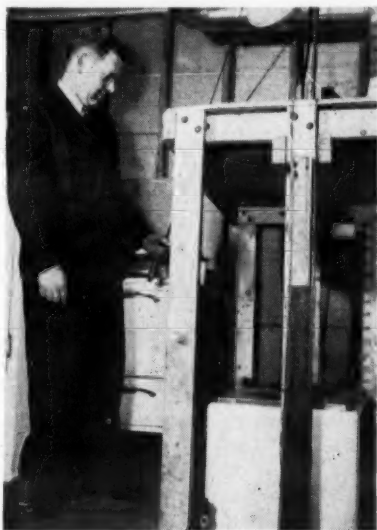
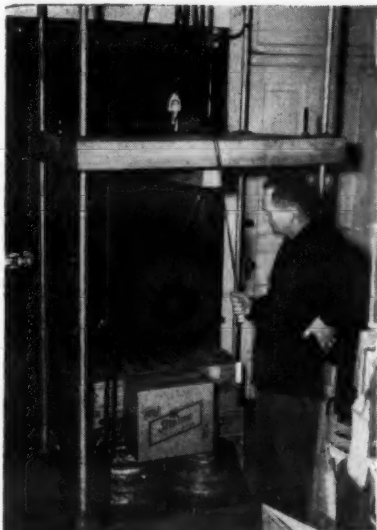
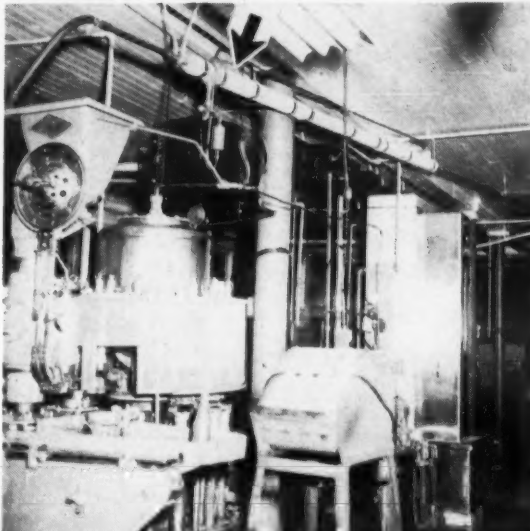
VENISON

Shot by hunters on North Manitou island is stored in walk-in equipped by Garthe, shown at right with Jack Hadra, lodge manager, and latter's son Nickie filling 300-lb. ice maker used to supply island residents.



MILK

Cooling at Ideal Dairy run by Ray and Charles Fiebing presented problem in oil return, while at Boughey's Garthe devised syrup cooler with suspended condensing unit (arrow).



BEER

Storage capacity was limited for Ralph Courtade, who conceived idea of installing cooler in basement of store and using elevator operated by electric hoist similar to one he'd seen at Garthe's store (right) for raising appliances.



RANGE

Sales talk is presented to Carol Hedlund by John Delanty, Garthe's sales manager in big showroom which is cooled in summer by operating conditioner in background.



SERVICE

In well equipped basement shop trainee Harold McGlothlin, gets practical instruction in repairs from Arlund Lohr, service manager. Garthe prefers hiring a school graduate with good background in theory and then training him in practical applications.

Resort City--

(Concluded from preceding page)

a big stumbling block for sales and service organizations, but here things are in very good hands. While Garthe devotes himself to over-all management of sales and service, the financial operations are under the close scrutiny of Milo Dearing, office manager. For many years city treasurer, Dearing seems well qualified to keep the boss right up to the minute on the company's financial position.

But getting back to the rebuilt trade-ins, Garthe usually figures on selling them among the hundreds who maintain summer cottages in this vacation spot.

"That didn't work out last spring, though," he adds. "The local residents cleaned us out long before summer arrived."

Service operations are under the immediate supervision of Al Lohr, service manager, who directs the activities of four servicemen. Garthe says the type of man he likes to get comes from a school that has given him the basic theory and then he and Lohr can put the novice through the practical training.

"We hold service classes pretty regularly," Garthe says, "and we have them in our model kitchen."

The kitchen, which is directly off the large sales floor, is completely equipped with most Frigidaire appliances hooked up for demonstration purposes, and is a very effective sales tool.

"In fact, we've sold more appliances out of the kitchen than we have off the floor," Garthe declares.

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aggressive refrigeration equipment dealers who have missed the important details of what we may be able to contribute to their efforts toward securing more profitable business.

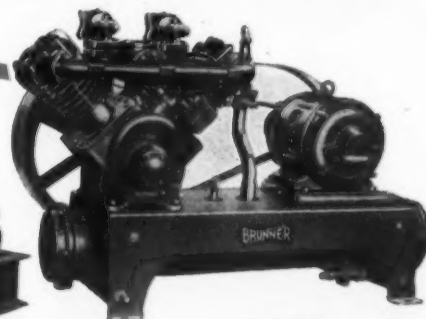
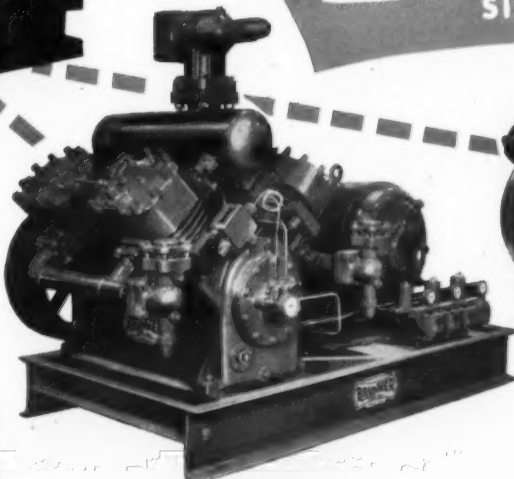
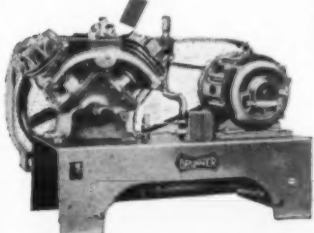
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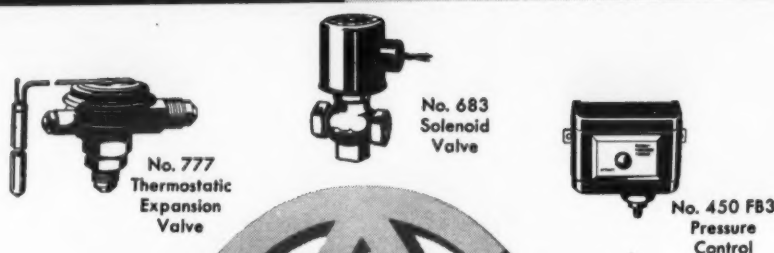
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INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)
sents for giving control of gold re-
serves to the private owners. Friendly
governments can always purchase
gold from America at the world mar-
ket price as determined by our
government.

DELBERT W. JENKINS

Answer: Gold used to be private
money. Until FDR came along it was
never government property.

Meet Me in St. Louis, Looney

That great midwestern city, St.
Louis, is credited with the creation
of the hot dog sandwich and the
ice cream cone, among other things.

Children of all ages (including
"Dope" and you, too, we'll bet)
should bow low to the Queen of the
Mississippi in gratitude.

Sixty years ago a sausage-maker
named John Boepple employed a
salesman who bore the fine "Irish"
cognomen of Anton Ludwig Seucht-
wanger.

Anton provided his customers with
a pair of gloves so that they could
eat hot sausages without burning or
greasing their hands.

To save money, owner Boepple re-
placed the gloves with long bread
buns, which were wrapped around the
frankfurters.

During the 1904 World's Fair in St.
Louis the "hot dog" (as it came to
be known later) achieved national
acclaim. Boepple sold tons of them
to visitors from all over the world,
and from then on they were served
everywhere.

With the same enterprising intui-
tion, Ernest Hamwi of St. Louis
created the ice cream cone about the
same time. He also had a stand at
the World's Fair, where he sold
sugar wafers baked on a griddle to
golden crispness.

Across the road was another stand
where people bought ice cream. One
day Hamwi took a scoop of ice cream
from his neighbor's stand and placed
it atop one of his wafers. Before the
hot griddle-cake had time to harden
he wrapped it around the dipper of
ice cream.

Tasted good.

And that experiment sparked an
idea. He took another wafer from
the griddle, rolled it around a beer-
keg plug, made a cone out of it, and
dropped a dipper of ice cream on
top.

The ice cream concessionaire was
delighted with this confection. His
customers then could walk away
while they ate—instead of crowding
around his booth—thus multiplying
turnover and volume.

After the St. Louis World's Fair
ended, Hamwi opened his own cone
factory in St. Louis. In its earlier
days the batter was poured into
moulds by hand from a can with a
long-necked spout. Eventually Hamwi
devised a machine to do this job. Two
of these original machines still op-
erate in St. Louis.

Various types of cones were de-
signed, including one which had a
hollow bottom where a prize was in-
serted. This item didn't last long
because it was costly to produce.
Anyway, all the kids wanted was the
ice cream cone itself.

All hail St. Louis—home of good
living, good beer, good music—and
the ice cream cone and the hot dog!

Tea, Too, in Saint Lou?

Saint Lou subscribers, whom we
asked to check up on the preceding
facts, not only affirmed their veracity,
but went further. They claim that
St. Louis also is the birthplace of
iced tea.

Seems that a British firm at-
tempted to promote tea-drinking at
the 1904 World's Fair in St. Louis,
but was thwarted by the heat and
humidity.

Inspired by the trade attracted to
ice cream booths, the British con-
cessionaire invested in a washtub,
a hundred pounds of ice, and a gross
of tin cups.

Served ice cold, his tea caught on
quickly. And iced tea has been an
American summer libation ever
since.

Ivory Towers—And their Tenants

The following essay is commended
to all "white-collar" workers:

"Every vibrant, vital organization
has at least one Ivory Tower tenant.
Some seem to be blessed—and we
do mean 'blessed,'—with a larger-
than-usual quota.

"Of course they get in our hair.
Of course they disregard all rules
and regulations. Of course they are
'anti-organization.' And of course
they incline, at times, to be starry-
eyed, and just plain loco.

"But we believe with all our heart
and soul that industry needs them
every bit as much as it needs the
group thinking of diversely-trained
experts.

"Yes, business would fall to low
estate, indeed, if those who create
and manage it were not taken up
beyond Olympian heights periodi-
cally—were not prodded into mental
fury—by unregulated unfettered
Ivory Tower thinkers.

"We should encourage our Ivory
Tower thinkers. For it isn't the
habitat that counts—it's the in-
habitant. Many a great painting has
come from a garret. Many a smear
has come from a swank studio.

"A well-built Ivory Tower is in-
sulated from the bromide, the for-
mulaized. Yet it's wide open to the
stimulating winds of new concepts,
new thoughts, imaginative thinking.

"Great ideas have been created at
'meetings.' Of course a great many
ideas often spring from group think-
ing. But almost as often great ideas
are the brain children of a gifted
mind that roams freely—and relent-

lessly—through an Ivory Tower.

"Our finest scientific laboratories
boast hundreds of scientific workers
—but only two or three have disci-
plined creative detachment that
comes from living in an Ivory
Tower. A Pasteur, an Edison, a
Kettering could keep thousands of
scientists busy. Those three lived in
Ivory Towers. Management today is
putting forth a noble effort to be-
come more scientific about solving
company problems—to get fresh
ideas from the collective creative
imagination of a conference. That's
fine. But let's never forget that even
the pure research workers in our
greatest laboratories are not un-
aware of the importance of plain,
ordinary 'hunch.' And what, pray
tell us, is a 'hunch' but the end re-
sult of Ivory Tower thinking?

"Want proof? Read 'The Way of
an Investigator,' by the late Walter
B. Cannon, M.D., George Higginson,
Professor of Physiology, Emeritus,
Harvard University Medical School.
Chapter 5 is entitled 'The Role of
Hunches.' Said Dr. Cannon: 'From
the years of my youth, the unearned
assistance of sudden and unpredicted
insight has been common. As a
matter of routine, I have long
trusted unconscious processes to
serve me.' Then, reporting the re-
sults of an inquiry concerning the
role of hunches which brought
answers from 232 high-standing
chemists, he states, 'Assistance from
a scientific revelation or hunch was
reported by 33%.'

"The inevitable result of too
much organization is a process of
leveling down the creative faculty.
Too many conferences dilute inspired
thinking. That is one of management's
current ailments. It shows the re-
sult of a failure to achieve that nice,
delicate balance between group
thinking and Ivory Tower thinking.

"An excess of one or the other is
as bad as a shortage of either one.
But there is little danger of erring
on the side of too many Ivory Tower
thinkers. The damage is all on the
side of overemphasis on organiza-
tion."—Printers' Ink.

Add Husband-and-Wife Stories

Last summer a Detroit organiza-
tion staged a big outing for its dis-
tributors, field men, and top dealers.
There were all sorts of prizes for
various contests, including a dozen
fine hams.

Realizing that few of the distribu-
tors would care to cart a fresh ham
in a suit case all the way home, in
the display of prizes 12 almost-real
"prop" hams were hung. Winners
were given certificates entitling them
to home delivery of the ham by a
home-town merchant.

One of the best distributors of
the bunch, who'd been free-loading
on bourbon all afternoon, was
awarded a ham for winning the gin-
nummy championship. As time went
by and the bourbons went in, he
forgot all about the certificate, and
unhooked one of the factory-made
hams. Carefully he wrapped it in
a newspaper, and stuck it in his
bag. Upon arriving home early the
next morning he stuck the "prop"
ham in his freezer. Later he told his
wife about their good fortune.

"That's wonderful," beamed The
Missus. "We are having the Johnsons
and Joneses in for Canasta and a late
supper tomorrow night. Now I won't
have to buy any meat."

The guests assembled, and en-
joyed their card game. Came time
for their cold supper.

At that moment a shriek emanated
from the kitchen where the maid
was preparing the snack.

Everybody rushed out to see what
had happened.

The maid was standing over the
phoney "ham," which had disinte-
grated into crackles of plastic and
a heap of sawdust.

Consternation, to coin a phrase,
reigned.



Yes, she certainly is lucky—a beautiful home
freezer is hers to enjoy, with its savings, its con-
veniences. Indeed, she's doubly lucky, for the
condensing unit—the very "heart" of her freezer
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that these units are smoother, quieter, more de-
pendable in operation; that they give a longer-
lasting performance at a minimum cost.

It is this record of user satisfaction that has made
Tecumseh Hermetics the first choice of leading
freezer manufacturers. Today, there are more
Tecumseh Hermetic units used in freezers than
all other makes combined.

Tecumseh Hermetic units are available in both
fan-cooled and static condenser type and cover
the complete range of applications from 1/9 h.p.
to 3/4 h.p.

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The Human Side of the Service Job

Gonzalez Tells How To Gain Customer Goodwill and Cites Problems In Changing from 'F-12' to 'F-22'

DETROIT—"A good part of service work is handling the human relations side of the business," Ralph A. Gonzalez, manager of product application for the Airtemp division, Chrysler Corp., told the Detroit chapter of the Refrigeration Service Engineers Society recently.

"The air conditioning serviceman who goes in and fixes the machine but leaves the customer sore is almost as big a liability as the man who does a poor job of fixing the machine," he added.

Gonzalez went on to point out a few of the human relations factors that every serviceman or service manager knows, but usually fails to apply.

SEE THE MANAGER FIRST

The first failure, he said, is to see the manager or the owner of the store at the very beginning of the service call.

Most important reason for seeing the manager first is to find out what the complaint is.

"You fellows well know," Gonzalez declared, "that if the complaint is received over the telephone by a secretary, passed on to the service manager, and then passed on to you is the same as the actual complaint of the customer, it is strictly coincidental."

Besides, he noted, the serviceman owes the customer the courtesy of letting him know that he is in the building. And by the same token, he should let the customer know when he leaves the premises. The customer likes to know.

LET HIM INSPECT JOB

"If you tell a customer that his complaint is fixed just before you leave, he may have a few minutes to inspect the job right then and be assured that everything is really o.k. And if he has some other complaint that you haven't fixed, you can take care of it immediately and leave the customer satisfied.

"Always remember that the least amount of time you spend on a job is the amount of time it takes to

fix it right on the first call.

"You may have a lot of other work you are anxious to take care of, but a few minutes extra with the customer to make sure he is satisfied may save hours later."

The first thing the customer wants to know when the serviceman arrives is what's wrong with the air conditioning. He usually asks that before the serviceman has had a chance to more than glance at the equipment.

DON'T GIVE HIM 'SNAPPY' REPLY

This is not the time, Gonzalez warned, to give him a snappy reply such as "If I knew that, I wouldn't be here." Take a tip from the doctors, he advised. When you go to the doctor, you usually recite your symptoms and then ask him what is wrong with you.

He doesn't try to tell you. He usually will smile and ask you to take off your shirt so he can examine you. He goes about his job so that you have confidence that he will discover the true cause of your complaint.

The same thing applies to owners of air conditioning, Gonzalez went on. They know as little about how the system works as you do about medicine. So don't try to tell them what is wrong without first examining the equipment to find out.

When the customer asks what the trouble is, just smile and tell him calmly that that is what you are here to find. If he will give you a few minutes to make an examination, you are sure that you can find the trouble. Then the customer can go back to his work confident that you will be able to find and correct his complaint.

CORRECT EVERYTHING

Gonzalez cited as another common failure in human relations the failure to correct everything else that is not normal about the job, no matter how remote it seems to be from the complaint originally registered by the customer.

"You can't blame a customer who

knows nothing about machinery for getting sore," Gonzalez remarked, "if the the next day something goes wrong—even if it is from some other cause. You will have a hard job trying to convince him of it and you won't satisfy him."

One final failure noted by Gonzalez is the failure to read directions and instructions. Gonzalez admitted that the more experience a man has the harder it is for him to remember to read the directions and instructions. And then, it is not until after he has completely ruined a piece of machinery that he sees the tag that heat should not be applied, or some other such advice.

DON'T EXPECT CUSTOMER TO KNOW

"Sometimes servicemen complain that their customers don't know anything about air conditioning and how happy they would be if all they had to worry about was fixing the machinery," he said.

"But how many radio servicemen get to fix a radio for someone who understands radios? How many of a doctor's patients know anything about medicine, or a plumber's customers about plumbing?"

Yet many of these men are very successful—because they understand the importance of human relationship, he concluded.

Gonzalez answered questions from

the floor after his talk. In reply to one question on the use of "Freon-22" in air conditioning systems, he pointed out that the main reason for using "Freon-22" in larger systems is because the manufacturer can get greater capacity at lighter machinery weights.

"There is a good possibility," he predicted, "that 'F-22' will in time replace 'F-12'."

Gonzalez declared that, generally speaking, the same compressors that are used with "F-12" can be used with "F-22."

"You do get higher head pressures with 'F-22' but no refrigerating machine today is operated at anywhere near what the machines can take. We have run all our machines at 3,600 r.p.m. for test purposes without undue wear."

FIELD CONVERSION CAN BE DANGEROUS

But he forestalled any idea that an "F-12" system can be converted to an "F-22" system in the field with any assurance that the machine will be able to take the additional pressure.

He pointed out that various parts have to have heavier design characteristics for "F-22" than for "F-12." For instance, he noted that different types of synthetics are needed for seals and gasket material and that certain metals must be avoided.

"'F-22' is a comparatively new refrigerant," he explained, "and we have a lot to learn about its characteristics yet."

"From the field standpoint, it is the smart thing to do to buy the machine designed for the refrigerant."

MR. PARTS JOBBER—

Want to see some enthusiasm, verging on excitement? Place on the counter a couple of motors, with Adapters—differing H.P. Leave this display there and see if you don't soon mail an order for Adapters. Many jobbers have found this really pays off.



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DOUBLE-TUBE COUNTER-FLOW CLEANABLE WATER-COOLED CONDENSERS

HALSTEAD & MITCHELL CONDENSERS

Greatly **Increase the efficiency of any refrigeration System!**

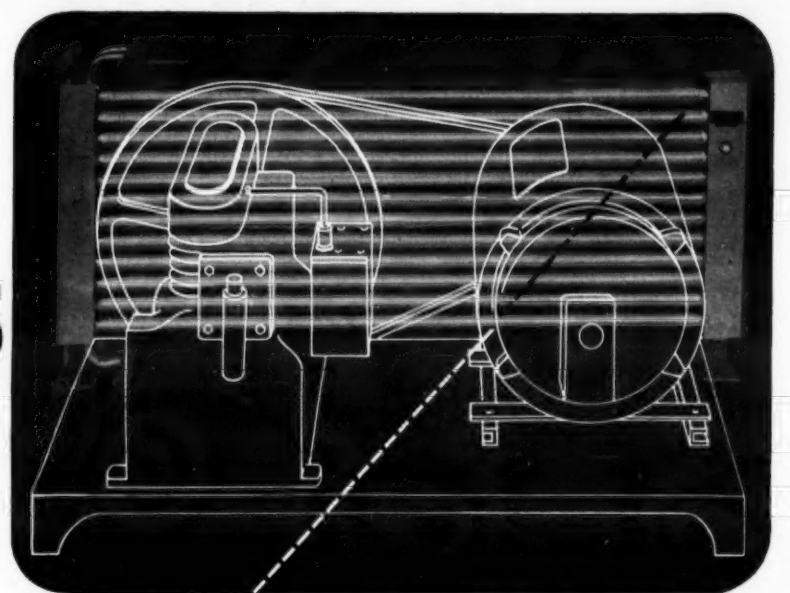


Photo shows 3 H.P. HM Condenser at work in a typical commercial refrigeration unit.

As the age of most water-cooled condensers increases and corrosive material builds up within the water tubes, more and more electrical energy is required and less and less refrigeration is received. Your operation costs, in the form of increasing water and electric bills, will rise because your unit must stay in operation longer to provide the amount of refrigeration needed.

Not so in an HM Cleanable Condenser where the proper heat-exchange efficiencies are continuously maintained for the life of the Condenser. HALSTEAD & MITCHELL Condensers are constructed to outlive and outwear the motor and the compressor of most refrigeration units.

HM Cleanable Condensers can be maintained at "new-unit" efficiency and economy by regular and continued use of a standard cleaning tool. Water tubes are easily accessible at both ends (as shown) for the spiral tool to clean and restore copper water surfaces to their original heat-exchange efficiencies—the result is longer life and operational economy for your refrigeration units.

Seamless Copper Tubes
Brass Headers Machined and Brazed

Unit pictured
5 H.P.

Halstead & Mitchell

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REPLACEMENT UNITS

UNIT NO. 3280

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They'll Do It Every Time By Jimmy Hatlo



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SELLS and STAYS SOLD
AND YOU CAN HANDLE ANY . . .**

**AIR CONDITIONING • REFRIGERATION • or AIR MOVING JOB
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With the addition of new 2, 3 and 8-ton package type and 30 and 40-ton remote type air conditioners to the comprehensive Curtis line, the Curtis dealer is in his best position in history. Long known for their performance record, Curtis Packaged Air Conditioners are built to operate efficiently with minimum installation and maintenance costs.

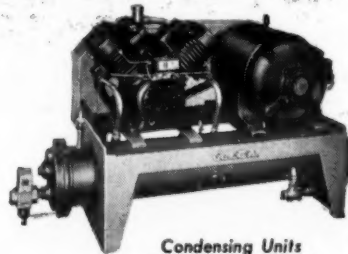
Supported with big, colorful full page advertisements in the Saturday Evening Post, Time, Newsweek and many other consumer magazines, plus an assortment of powerful sales promotion helps, the Curtis dealer will find Curtis equipment is recognized and wanted by consumers everywhere.

**CURTIS Refrigerating
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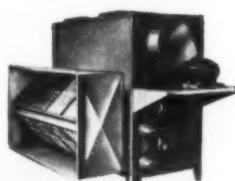
**96 YEARS
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SUCCESSFUL
MANUFACTURING**



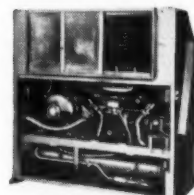
Packaged Type
2 1/2 to 8 tons



Condensing Units
1/4 H.P. thru 40 H.P.



Ceiling and Floor Type
Air Handling Units



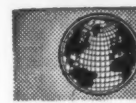
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VOLUME 61, No. 16, SERIAL No. 1,135, DECEMBER 18, 1950

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

Sensible Food Hoarding IS Patriotic NOW!!

(Concluded from Page 1)

radiation. You can help yourself and your neighbors at the same time.

Sensible food hoarding, then, is patriotic.

Don't look for any public pronouncement on this score soon, if ever. We don't have the manufacturing facilities nor the steel to produce a tiny fraction of the freezers that would be demanded by alert families if such an announcement were made. Furthermore, it might cause another rush to hoard foolish things foolishly.

It is hoped, though, that sensible and wise citizens will stock up their freezers in a practical, careful manner.

If there's no mad rush to do this, prices won't be affected adversely, and everyone will benefit.

As a matter of fact, if you don't hoard food, the government will. Every month it buys up millions of tons of perishable foodstuffs just to keep prices high. Because most of these vast quantities of eatables aren't kept in a frozen state, they turn rancid, eventually, or are destroyed outright.

Every little tidbit which you put in your freezer now helps relieve your Government just that much of its burden of buying and destroying—a device and practice which not only keeps prices high but raises your taxes.

Any way you look at it, it's wise to buy more than you need regularly. And, without fanfare or panic, store that something extra in your freezer or freezers. You should be the judge of your own needs (plus the consumption quotients of your family and neighbors).

As *The Saturday Evening Post* put it not long ago, "judicious storing of essential food . . . should be encouraged. After all, storage of food in the home, and not exclusively in Government warehouses and chain-store depots, is an American tradition. Before we developed our apartment-house, hand-to-mouth way of life, some 50,000,000 bushels of wheat, largely in the form of flour, were stored in private pantries."

We've long since passed from the flour-salt-and-bacon economy of our pioneering ancestors (who grew, picked, and shot their daily meals). The variety of foodstuffs we buy daily could be supplied, in case of an atomic emergency, only from our own personal home freezers.

Sensible home food "hoarding," as Senator George W. Malone of Nevada has testified on the floor of the United States Senate, "is an honest American trait of providing for a rainy day." He could have added: "And a prudent method of protecting loved ones, friends, and neighbors against an atomic night."

From a United Nations agency comes similarly heartfelt, honestly sound advice. Norris Dodd, director of the United Nations Food and Agriculture Organization, has proclaimed:

"I believe the present world situation demands the setting up of a system of emergency reserves of scarce agricultural commodities . . . and an intensified drive to expand production and improve distribution."

Can those who are in the know pass out any broader hints any more tactfully?

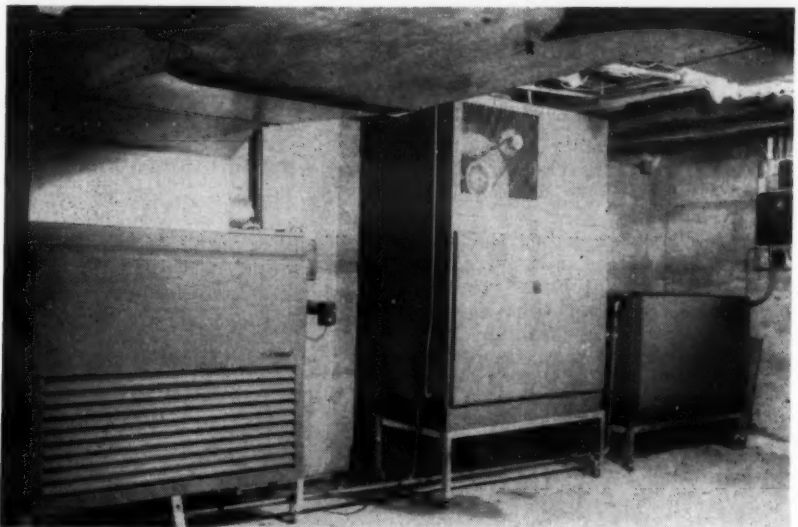
To sum up:

If you have a freezer, it's actually PATRIOTIC to hoard essential foodstuffs quietly and easily.

If you don't have a freezer in your home, you'd better get one. Nobody knows when Russia will strike. Could be tomorrow.



FOUR CEILING DIFFUSERS distribute the air to this combination diner-restaurant, which was built as a packaged diner by the Paramount Diner Corp.



TEN-TON UNIT by Typhoon was split with high side and low side separated by 10-ton evaporative condenser. Return air duct connections were added later to the low side at left.

Packaged Diner Has Packaged Air Cooling

10-Ton Unit Supplies Air Conditioning For All But Kitchen of 3-Section Diner

GREAT NECK, Long Island, N. Y.—A "packaged" diner with packaged air conditioning. That's the setup at the Star Diner here, which caters largely to transient highway traffic.

Built by the Paramount Diner Corp., the eating place is said to be the first of its kind ever constructed. The three-section diner is a self-contained unit in that the kitchen, kitchen equipment, rest rooms, etc., come with it. It measures 50 ft. long by 38 ft. wide and has a seating capacity of 88.

The diner was designed for air conditioning, to the extent that ducts were built in at the Paramount factory. Installation of a packaged Typhoon air conditioner with an evaporative condenser, plus duct, plumbing, and electrical connections, made the diner ready for summer business.

The kitchen of the Star Diner is separate, and not cooled by the air conditioning system. The job is handled by a 10-ton unit which is split into separate high side and low side, with the "evap" in between. Fifty per cent fresh air is introduced into the system, and a Typhoon heating coil is installed right in the unit for winter heating.

Conditioned air is distributed through four ceiling diffusers and return air is collected through six return grilles, four under the booths and two under the counter. Outlets are 8 in. above floor level.

The installation was made by Stanley Molinari, of Refrigerating Equipment Co. in Freeport, Long Island.

Although the diner has only been open for one summer season, the owners, Henry Harms and Alfred Hahn, are enthusiastic about its success.

"There are thousands of new families moving to Long Island every year," said Harms, "and there is a constant stream of New Yorkers on the road, getting away from the city. With so much transient traffic, an attractive diner with a big 'Air Conditioned' banner can't fail to make money."

N. J. Contractors Pick Officers

NEWARK, N. J.—L. Lee Richardson of Nutley has been elected president of the Refrigeration Contractors Association of New Jersey.

Michael Petillo of Nutley was elected vice president, and Robert Anderson of Bogota, secretary-treasurer. The new officers were scheduled to be installed Dec. 9 at a dinner at the Essex House, Newark.

'Ham' Operator Finds 'Hot' Boston Prospect Via South America

BOSTON—There's nothing a salesman likes better than a lead on a "hot" prospect, and there's no end of head-scratching in trying to figure out a way to dig up these sure-fire sales leads.

But a recent experience of the E. A. Berman Co., Worthington air conditioning distributor here, has M. L. Cail wondering whether a contractor ought not to set up his own "ham" radio station.

It seems that air conditioning was being seriously considered by the proprietors of the Radio Shack, well

known Boston supplier of almost everything in the radio, television, and electronics business.

It also seems that a member of Worthington's branch in Washington, D. C., is an ardent radio ham.

One night the latter was "DX'ing" with a ham in South America who happened to mention a recent conversation with a Radio Shack operator in Boston regarding some repair parts.

The South American told the Worthington man in Washington that the Boston ham had remarked that

the Radio Shack was considering an extensive remodeling program that would include air conditioning. (This sentence is somewhat involved, but so's the whole deal.)

"The Worthington man in Washington quickly called us to pass along the lead, and in due time I sold the Radio Shack a fairly large air conditioning system," recalls Cail.

"The story is now often repeated by the employees of the Radio Shack," Cail adds, "to show their scope of operation and how really small the world is."

Complete Conditioning Makes Windows Unnecessary In New 5-Story J. C. Penney Store In Lincoln, Neb.

LINCOLN, Neb.—Newest addition to Lincoln's "air conditioned" skyline is the five-story and basement J. C. Penney Co. building at 13th and "O" Sts. The Carrier air conditioning equipment was furnished by Max Lehman, Lincoln Carrier distributor, and installation was made by Newberg & Bookstrom of Lincoln.

The building is 75 ft. by 142 ft. and completely air conditioned. After being taken into the system through the roof penthouse, air is either heated or cooled and then circulated throughout the building with the same ductwork being used for both heating and cooling.

The new building, which was started last February, cost over \$600,000 and is owned by Miller & Paine department store of Lincoln, which signed a long-term lease with

the Penney company.

The building has no windows above the street floor display level save for a horizontal band on fifth-floor level and a perpendicular band on the 13th St. side near the rear of the structure.

Modern air conditioning makes windows unnecessary, Manager L. J. Hines explained, and offers the added advantage of keeping merchandise in better condition while eliminating outside noises, etc., to distract employees.

Appliance Store Enlarged

FALCONER, N. Y.—The Royal Electric & Appliance Co., here, has opened a new addition to its store building, giving it two complete stories.

Evans Named Artkraft V.P. In Charge of Purchasing

LIMA, Ohio—Artkraft Mfg. Corp. has announced the promotion of Thomas H. Evans from purchasing agent to vice president in charge of purchases. Evans, who has been purchasing agent of Artkraft for the past 12 years, is succeeded by Robert Taylor, formerly of Ranney Refrigerator Co.

Pay Raised for 1,700 in L. A.

LOS ANGELES—Nine members of the Refrigerator Manufacturers Association here have signed wage agreements with AFL unions that grant increases of 10 to 17% to carpenters, sheet metal workers, painters, and teamsters, it was reported recently.

The new rates, which affect about 1,700 employees, are expected to govern at least until next November.

NEW... For Original Equipment or Replacement

Smaller, More Compact

AP Model 206C
(FIXED SUPERHEAT)

Thermostatic Expansion Valve

- ONE-THIRD Smaller in Size.
- Wider Capacity Range — to 1 ton Freon.
- Easier to Install.
- Easier to Service — Strainer removable without disconnecting valve.
- A-P LIQUID CHARGED — for use

at low, commercial, air conditioning temperatures — without special charge.

- FIELD PROVED — Already in use on small portable air conditioners, milk coolers, small display cases and reach-in coolers, ice cubers, drink dispensers, and others.

Again in this new smaller, more compact A-P Model 206C Thermostatic Expansion Valve, you see reflected the advanced engineering that has made A-P Dependability so important in the industry. The new Model 206C is at least one-third smaller in size — a welcome advantage in today's streamlined and compact units when space is limited. In spite of its size, the 206C offers wider capacity range — up to 1 ton Freon 12 — factory set to your superheat specifications. Particularly easy to install because of its size, shorter bulb, and handy wrench pads, it offers service advantages as well. The large strainer, for instance, can be quickly removed for inspection or cleaning without removing the valve from the line. It is available with 1/4" inlet, and your choice of 1/4" female pipe tap, 3/8" SAE male flare, or, combination 1/2" x 3/8" SAE male flare outlet connections.

Acquaint yourself today with the many advantages of this new A-P 206C Thermostatic Expansion Valve — for original equipment or replacement application. Write for latest bulletin.

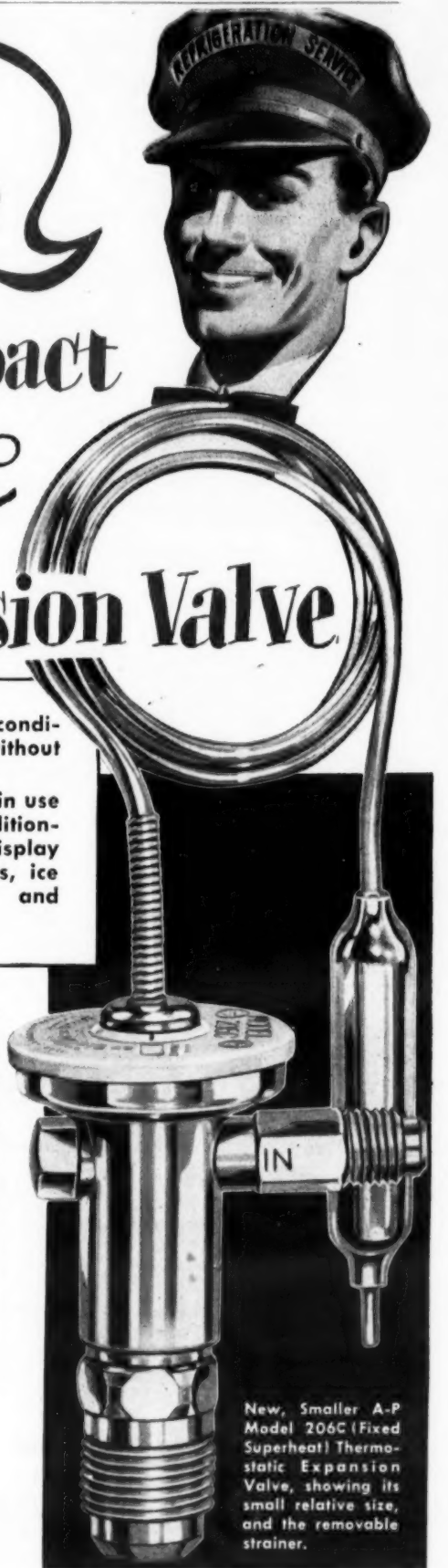
AUTOMATIC PRODUCTS COMPANY

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Export Department, 13 East 40th Street, New York 16, N. Y.



DEPENDABLE Refrigeration Valves

STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALERS EVERYWHERE
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New, Smaller A-P Model 206C (Fixed Superheat) Thermostatic Expansion Valve, showing its small relative size, and the removable strainer.

BE PROFIT WISE!
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LOS ANGELES 34, CALIFORNIA

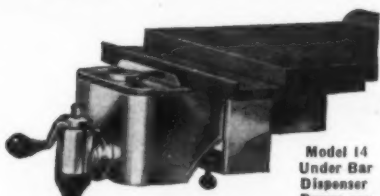
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If you are prepared to handle sales, installation and service for our stainless steel soft drink dispensers for Bars and Taverns, advise business experience and some facts relative to your financial ability.

INCREASES PROFITS FOR BARS AND TAVERNS

Exceptionally profitable to handle.—Write to

MULTIPLEX FAUCET CO. 4326 DUNCAN, Dept. ARN-14, ST. LOUIS, MO.
—MANUFACTURERS OF SOFT DRINK DISPENSERS OVER 45 YEARS—



Model 14 Under Bar Dispenser Draws one sweet drink and seltzer

for more
Ice Maker
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FILTRINE
"Taste-Master"
Demineralizer
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Cuts Service
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Crystal ice... without sludge-forming rust, sediment, mineral residue... chlorine taste... "milky" taste... Ends major source of service calls. Write for new literature.

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LARKIN WALL HUMI-TEMP

Quality speaks a language everybody understands. Wholesalers, dealers, and users alike know that the name *Larkin* means quality—of workmanship, materials, and performance.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

319 MEMORIAL DR., S.E. • ATLANTA, GA.



SEE PAGE 21

What's New

Refrigerette Designed For Home or Office Use



CLOSED, the Refrigerette presents a furniture-like appearance.



OPEN, the Refrigerette shows its storage space and 2 ice trays.

KEY NO. P-1231

DETROIT — Called the McClung DeLuxe Refrigerette, a miniature electric refrigerator for homes and business offices has been put on the market by W. A. McClung & Co. here. It retails for \$149.50.

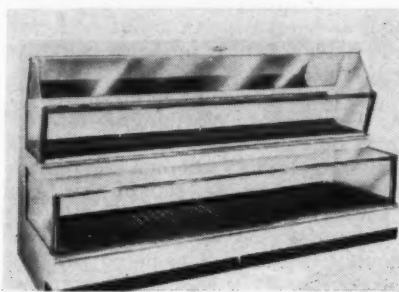
On the outside, the refrigerator measures approximately 20 in. long, 17½ in. deep, and 20 in. high. Inside dimensions are: 15¼ in. long, 9¼ in. deep, and 13½ in. high. It weighs 65 lbs., complete.

According to McClung, the Refrigerette is "styled to blend with the most luxurious surroundings in home or office." Exterior of the box comes in two, two-tone colors: autumn tan trimmed in desert sand, and white trimmed in desert sand.

Outside of the refrigerator's door may be decorated with a picture of the purchaser's choice or with one from the company's large selection. A frame in back of the door's clear plastic facing holds the picture.

Interior of the Refrigerette is finished in hard-baked white enamel. All mechanical parts are said to consist of standard refrigeration equipment. The evaporator accommodates two plastic ice cube trays.

The refrigerator is powered by a ½-hp. hermetically-sealed Tecumseh condensing unit which is guaranteed for one year. An additional four-year guarantee on the unit may be obtained from McClung for \$5. It is sold direct to dealers.



Fogel Introduces 2-Deck Merchandising Case

KEY NO. P-1232

PHILADELPHIA — Fogel Refrigerator Co. has announced a new refrigerated two-deck self-service case for merchandising dairy products, vegetables, and meats.

Two or more of the cases, which are manufactured in 8-ft. lengths, may be joined together for continuous display.

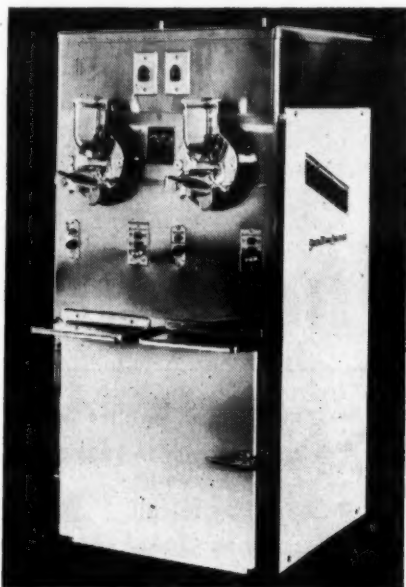
Designated Model DC2-8, the case offers 25 sq. ft. of merchandising display shelf. Both decks are refrigerated by gravity coils and illuminated by a group of concealed fluorescent lights.

Construction is of heavy-gauge, rust-resistant steel with a baked white enamel finish. Other features include removable porcelain shelves, "side view" glass ends, as well as protective stainless steel lower front panel.

Over-all dimensions are 56¼ in. high, 96 in. long, and 40½ in. deep. Shelf length is 90 in., top shelf depth 13 in., bottom shelf depth 25 in., front glass height 12 in., and top width for display 21½ in.

A unit is required for the "Double Deck." A ¾-hp. unit is usually satisfactory.

Sweden Freezer Includes Mix Storage Section



KEY NO. P-1233

SEATTLE, Wash. — Sweden Freezer Mfg. Co., producer of soft ice cream equipment, announced the latest ad-

dition to its line of direct-service freezers.

The machine is a further refinement of the company's model 1-131—incorporating a refrigerated storage compartment below the dispensing area for the storage of mix with refrigerated mix tanks above each freezing cylinder for rapid feeding of mix.

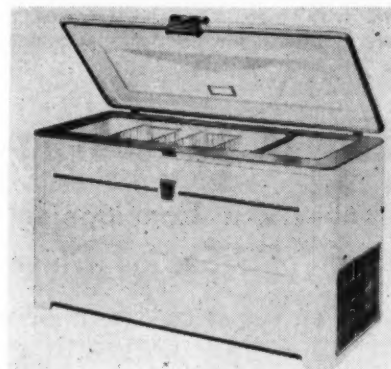
Up to 24 gals. of mix can be stored in the mix storage compartment in the lower portion of the machine. The cabinet features a completely self-contained, ½-hp., hermetically sealed, 110-volt refrigeration unit for plug-in operation. Thus, mix may be stored without necessitating operation of the larger refrigeration systems which is contained in the freezer itself.

The batch-feeding portion of this model consists of two 4-gal. stainless steel refrigerated mix tanks positioned above the freezing cylinders and a magnetic solenoid release valve for each tank to facilitate re-charging of freezing cylinders with the flip of a switch. The solenoid valves release a measured batch of mix upon being actuated—preventing the possibility of over-filling a freezing cylinder.

This model—1-131A25—is said to combine the versatility of a twin head freezer with the reserve capacity features available with a continuous machine.

"The refrigerated compartment in the lower half of the unit overcomes any mix storage problem; yet the complete mix-feeding, mix storage freezer takes but a fraction over four square feet of floor space," the company stated.

'Quicfrez' Claims More Space In Smaller Cabinet



KEY NO. P-1234

FOND DU LAC, Wis. — Greater storage space within smaller cabinets is claimed to have been achieved in the new 1951 "Quicfrez" line of home freezers made by Sanitary Refrigerator Co. here.

Use of high density insulation makes it possible to cut down the size of freezer walls, at the same time providing more efficient temperature control, according to the manufacturer. Space used for the compressor units has also been lessened.

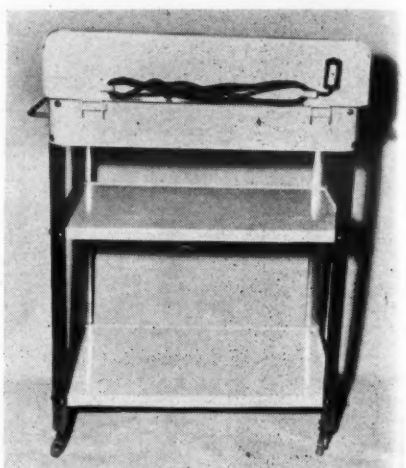
Quicfrez home freezers are available in 12½-cu. ft. and 16-cu. ft. sizes. Each of these models has two compartments; the larger section for food storage and the smaller for quick freezing of foods. Separators and baskets are provided and all cabinets have interior lights, according to the company.

The 12½-cu. ft. model retails at approximately \$397.95 and the 16-cu. ft. size at \$458.95.

'Duitall' Table Provides Appliance Outlets



FRONT view of the "Duitall" shows how much the table can accommodate.



BACK view shows how the electric cord winds up when not needed.

KEY NO. P-1235

CLEVELAND — Now being manufactured by the Specialty Div. of Karyall Body, Inc., here is an electric table that can be used to group small electrical appliances in one spot, for party serving, as a general utility unit, and for other purposes.

Measuring 27 in. long, 16 in. wide, and 36 in. high, the table is constructed of steel finished in "Glas-cote." It consists of a top section with folding back panel, divided utility drawer, and two chrome towel racks; two shelves; and chrome legs with ball-bearing casters.

The table, called the "Duitall," comes equipped with two "No Shok" current taps and nine feet of heavy-duty electric cord built into the panel, and four steel caster cups. The taps close automatically when not in use.

Cord holders, welded into the rear of the panel, are provided for winding the cord out of the way when the table is used for utility functions. To convert the table for such uses, the panel is dropped down.

The top shelf has a clearance of eight inches; the lower shelf has a 16-in. clearance.

The Duitall is available in five colors—white, red, yellow, green, and blue.

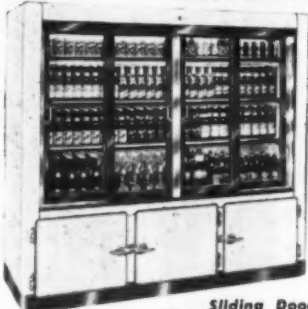
In addition to the uses noted above, the table can serve as a roll-about tea wagon, portable cocktail bar, an electric roaster table, and for use in sick-room service.

Suggested retail price of the table ranges from \$19.95 to \$24.95. The price variation is due to freight hauls and advertising allowances.

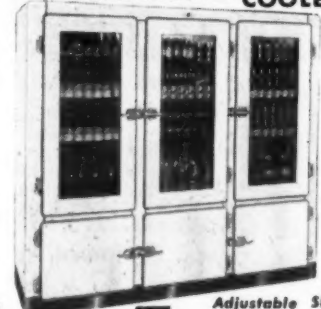
FOR FASTER DISPENSING.. MORE ECONOMICAL COOLING.. BETTER DISPLAY insist on P-H DRY BEVERAGE COOLERS

THE BEVERAGE DISPLAYER

THE STANDARD DISPLAY COOLER



Sliding Door Type



Adjustable Shelves

5 MODELS to Choose From

5 MODELS to Choose From

For Complete Information — Contact Your Nearest P-H Dealer or Write Direct!

PUFFER-HUBBARD MANUFACTURING CO.

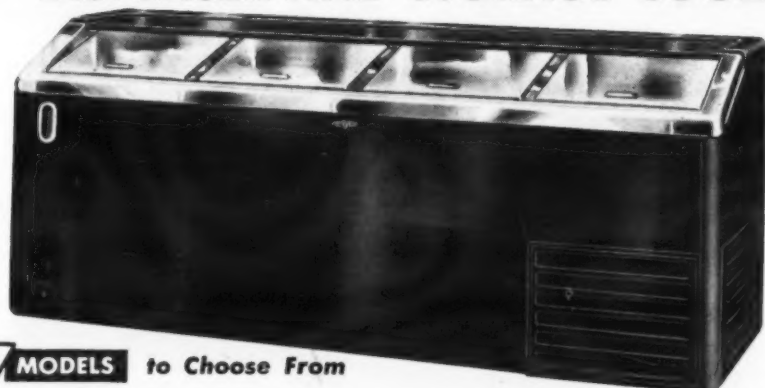
GRAND HAVEN, MICHIGAN

FEATURING

1. Porcelain or Stainless Exteriors
2. White Porcelain Interiors
3. Welded Steel Frame
4. Sealed-In Fiberglass Insulation
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6. Grad-U-Matic Air Conditioning
7. Underwriters Approved

(Available in "Lifetime" PORCELAIN OR STAINLESS STEEL EXTERIORS)

THE DISPENSER AND STORAGE COOLER

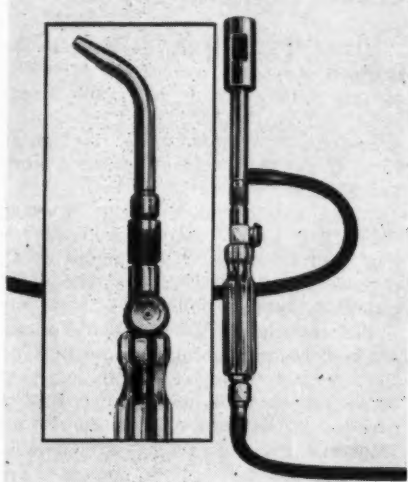


7 MODELS to Choose From

With Rollaway Stainless Steel Doors — Adjustable Partitions

DISPLAY CASES • DAIRY-DELICATESSEN CASES • PASS-THRU CABINETS • DRY BEVERAGE COOLERS • DOUGH RETARDERS • FLORIST CABINETS • WALK-IN COOLERS

What's New (Con't)



'Sod-R-Brace' Torch Has Detachable Detector

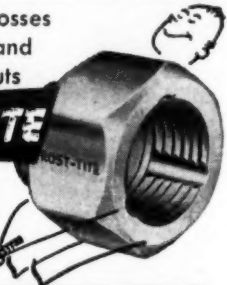
—KEY NO. P-1236—

CHICAGO—A new soldering and brazing torch, with an attachable refrigerant leak detector, has been announced by National Cylinder Gas Co.

The torch, named the "Sod-R-Brace," burns acetylene gas and air and features a built-in pilot light. Its diaphragm type valve is designed so

By eliminating losses from loosened and cracked flare nuts

FROST-TITE
pulls up
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In Frost-Tite flare nuts, forged frost-relief slots provide relief for expanding ice within the nut, and thus no force is created to cause loosening, splitting, or cracking. Cost no more than ordinary flare nuts—are ideal for use anywhere in the system.

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Literature and prices on request.

REMCO INCORPORATED
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that the operator can control the flame and pilot light and turn the torch on and off, with the thumb. The torch handle is grooved plastic material. It is fire resistant and weighs less than 8 oz.

Six tips, all with individual gas and air mixers, permit a wide range of work—from fine soldering to silver brazing of copper tubing up to 3/4-in. in diameter. A regulator which can be adjusted from 0 to 15 lbs. pressure allows precise control of pressure and volume of gas so that the correct flame may be obtained for any size tip, according to the company.

The leak detector has a newly designed reactor unit in which two heavy copper wires are maintained at dull red heat by the pilot light. This design, it is stated by NCG engineers, makes the unit extremely sensitive in locating even leaks of halogen and other refrigerant gases. The reactor unit can be replaced without tools in a few seconds.

Announced by NCG at the same time is the "Carryall," a carrying stand built of aluminum tubing which makes the Sod-R-Brace acetylene-air outfit completely portable. It is designed to hold a 40-cu. ft. acetylene cylinder and accessories.

Radiant Panels Replace Ordinary Baseboards

—KEY NO. P-1237—

BERGENFIELD, N. J.—New Electriglas radiant heat baseboard panels have been introduced for prime and supplemental heating of homes, industrial and commercial buildings, it was announced recently by the manufacturer, Appleman Glass Works.

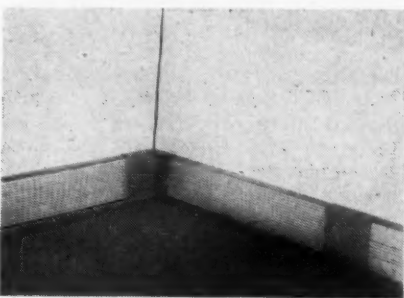
The new baseboard panels are designed to take the place of the ordinary baseboard in a house. They can be quickly and simply installed in new or already standing structure. They are usually recess mounted in new construction and surface mounted otherwise.

The new baseboard heating unit consists of a virtually unbreakable glass panel encased in a steel frame with hammered silver finish. A chemical element is fused into the

back surface of the glass. The surface temperature of the glass reaches approximately 240° F.

Fully-automatic in operation, the Electriglas baseboard panels are used with a low-voltage thermostat and relay in each room.

The Electriglas baseboard panels are available in two sizes, a 300-watt



ELECTRIGLAS radiant heat baseboard panels installed.

(1,024 B.t.u.) unit 42 in. long, and a 200-watt, (683 B.t.u.) unit 30 in. long. Both are 6 1/2 in. in height and 1 1/4 in. deep.

The sections are held together by 1/2-in. conduit nipples, lock nuts, and bushings. A junction cover plate is used to cover the terminal block bushings. A junction cover plate is used to cover the terminal block and glass mounting brackets. There are closing pieces for terminations.

The glass panel beams sunshine-like infrared radiant heat. The air remains moist and pleasant.

The panels are designed to last a lifetime and there is no maintenance. There are no moving parts. Panels are guaranteed for five years.

The new baseboard panels will be exhibited for the first time anywhere at the 10th International Heating and Ventilating Exposition in January.

Current Literature Available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Dole Issues Bulletin On 'Ice-Cel' Unit

—KEY NO. L-1231—

CHICAGO—An engineering bulletin on the Dole Ice-Cel unit for air conditioning and product cooling has been announced by Dole Refrigerating Co. here.

Copies of the bulletin, labelled Section 8-ES, are available to architects, contractors, and engineers.

The bulletin gives application method and data on the Ice-Cel outlining the different uses for the unit, rules for the selection of equipment, check charts for different applications, and engineering examples of different types of applications for the unit.

Ozone Data Presented In New ASRE Pamphlet

—KEY NO. L-1233—

NEW YORK CITY—The production of ozone and its value for food preservation, a comparatively unknown subject, are discussed in a recent pamphlet issued by the American Society of Refrigerating Engineers.

The four-page pamphlet entitled "Ozone and Its Application in Food Preservation" contains information on the use of ozone to protect eggs, apples, small fruit, cheese, meat, etc., during storage.

The pamphlet tells how to determine ozone concentration and how to calculate the required amounts of ozone for various preservation needs. Ozone production by an ozonator or ultraviolet lamp is fully described.

Known as AD-50, the pamphlet was written by A. W. Ewell, consultant for Westinghouse Electric Corp. and a recognized authority.

Copies of AD-50 may be obtained from ASRE headquarters, 40 West 40 St., New York 18, N. Y., at 35 cents each.

Bevco Specifications

—KEY NO. L-1232—

ST. LOUIS—Two-color specifications sheets on the Bevco B, C, and DB model beverage coolers were released recently by the Bevco Co., Inc. here.



DON'T Use WATER!

Use UNICON

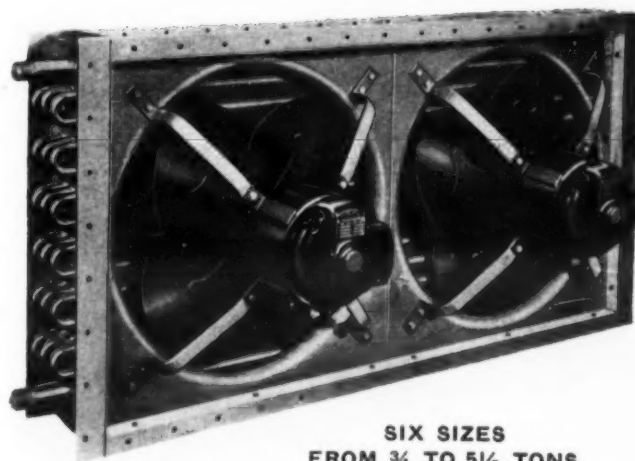
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AIR-COOLED CONDENSER

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3. Where water is too expensive.
4. Where there is a sewage problem.
5. Where extra condenser capacity is required in an existing system.
6. For combination air-and-water cooled systems in an existing water cooled system.

Send for Bulletin No. U-177



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PANEL UNITS-CUBERS-FINNED COILS-
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CONDENSERS Air Cooled, Water Cooled, Evaporative
WATER COOLING EVAPORATORS
BLAST COOLING COILS-BLAST HEATING COILS.

Information Center

Here is an easy, convenient way for you to get more information on "What's New" items and on products advertised in this issue of AIR CONDITIONING & REFRIGERATION NEWS. New literature and catalogs available to readers can also be obtained by using the form below. Your requests for this information will be forwarded promptly by the NEWS.

In requesting additional information on "What's New" and "Current Literature Available" items, please use Key Nos. shown on these items.

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Philco To Show '51 Lines At Sales Parley Jan. 4-5

PHILADELPHIA — Philco Corp. has announced that its mid-winter distributor sales convention will be held Jan. 4-5 at the Palmer House in Chicago. The company's 1951 lines will be introduced during the meeting.

At the same time, it was made known that Philco's planning for future refrigerator and freezer production is being limited to the first quarter of 1951 for the present. However, no serious cutback in refrigeration output is anticipated in that period, according to Thomas A. Kennally, president of the company's refrigeration division.

But, he added, "because of the uncertain international situation, we might easily be restricted or hurt production-wise in the second and third quarter."

Ironrite Fined \$6,000 for Fixing Prices In Missouri

JEFFERSON CITY, Mo.—Ironrite, Inc., was enjoined in Cole County circuit court recently from violating Missouri's anti-trust law by fixing prices on Ironrite ironers.

Circuit Judge Sam C. Blair fined the firm \$6,000, an amount agreed to by the company and J. E. Taylor, Attorney General.

The suit was a companion case to one earlier in the month when Central States Distributors, Inc., of St. Louis agreed to pay a fine of \$2,500 in the state supreme court and stop price fixing practices. Central States sells the mangles made by Ironrite.

Promotion Is an 'Oldie' But It Snags Prospects, Boosts Sales 25%

CHEYENNE, Wyo.—The time-honored "trade in your old refrigerator" promotion with a prize to be awarded the customer entering the oldest box in operation regardless of make, brought excellent returns in late November and early December for Jack's Appliance Co., here, according to Irv Crown, proprietor.

The contest has been instrumental in boosting sales approximately 25% in recent weeks, it was reported by Crown.

Crown promoted the contest by placing a Philco Model 905, price listed at \$299.95, in a display window with a placard announcing this would be the prize for the oldest mechanical refrigerator listed at the store during the specified period. Illustrated newspaper advertising copy was tied in with the display.

Entry blanks were distributed with space for the name and address of the entrant, make of refrigerator, year, model, and serial number. Jack's dispatched a serviceman or salesman to inspect each refrigerator entered in the contest and certify that the information given on the entry blank was correct.

Astral Distributor Appointed

CINCINNATI — Appointment of York Supply Co. here as distributor of the Astral portable refrigerator was announced recently.



David Rusan

F. R. Jurisch

Rusan Named Mfg. V.P. For Franklin Transformer

MINNEAPOLIS — M. L. Pugh, president of Franklin Transformer Mfg. Co., has announced the appointment of David Rusan as vice president in charge of manufacturing.

At the same time, it was announced that F. R. Jurisch, previously service manager for the company, has been promoted to the position of assistant sales manager for Franklin's refrigeration division. Jurisch will remain at the general offices of the company located at the plant in Minneapolis.

Franklin manufactures refrigerators, freezers, welding equipment, battery chargers, and battery testers. These products are sold under private label to large mass marketing organizations.

Rusan has had many years experience in manufacturing refrigerators, freezers, heating appliances, and other products in the metal fabricating industries. He was associated with Seeger Refrigerator Co. for several years.

Rusan's new functions will include supervision of refrigerator and freezer manufacturing operations. He will make his headquarters in Franklin's St. Cloud, Minn., plant.

Lewyt Corp. Raises Prices On 2 Vacuum Cleaners

BROOKLYN — The Lewyt Corp., manufacturer of the Lewyt vacuum cleaner, has increased suggested list prices of its two models, the 55-80 and the 55-101, according to Walter J. Daily, manager of the Lewyt vacuum cleaner division.

The new suggested list prices are as follows: Model 55-80—the 1951 model Lewyt vacuum cleaner with standard No. 80 rug nozzle and complete set of cleaning attachments, plus paint sprayer and moth snuff-cator—\$89.95; Model 55-101—all above attachments, but with the new "101" carpet sweeper-vacuum cleaner combination rug nozzle in place of the No. 80—\$94.95.

Resnick Heads Neb.-Iowa Appliance Dealers Assn.

OMAHA, Neb.—Frank Resnick of Union Outfitting Co., was elected president of the Appliance Dealers Association, a division of the Nebraska-Iowa Electrical Council.

Other officers named: Al Mahan of Mahan Appliance Co., Omaha, and Jim Cole of Frigid Service Co., Lincoln, vice president; and Andrew Hogan of the Hogan Appliance Co., Omaha, secretary.

'50% More In '50' Goal Attained by Servel, Inc.; Credit Pipeline Expansion

NEW YORK CITY — Servel increased its sales over 1949 approximately 50% during the 1950 fiscal year ending Oct. 31. W. Paul Jones, president, announced here. Net sales for the 1949 fiscal year were \$41,204,153.

Jones attributed the big increase over 1949 to the public demand for gas appliances in areas opened up to natural gas by the big expansion of pipelines in this country.

This continued growth could mean an increase in public demand in 1951 that would send sales up another 50%, he said, if material cutbacks ordered by defense authorities do not interfere too seriously with production plans.

"We are now trying to gear our operations to meet the production changes these orders have forced on us and unless the world situation grows worse, bringing further material cuts, we hope to meet the mounting public demand," Jones added.

The company's new line of gas refrigerators that will be introduced in January to mark the 25th anniversary of the introduction of the gas refrigerator in this country will have many new features, he said, including larger models, improved interior storage layout and exterior appearance, scientific cold temperature control, and a number of other improvements.

Servel manufactures water heaters and year-round air conditioners, in addition to refrigerators, and Jones said that each division experienced a big sales increase.

"Our sales slogan of '50% more in '50' was realized fully in the refrigerator division where the increase totaled exactly that amount," he said. "These increases were not confined to any one or even a dozen areas but were reported from all parts of the country."

"Texas reported an increase of nearly 100% with one major city reporting sales up 500% over 1949. Los Angeles sales are up 88% with the State of California as a whole near the 50% mark. The Greater Chicago area and Florida both report sales increases equal to the 50% national average with the Atlantic Seaboard and the Northeast slightly above this mark."

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Most Complete Line of
AIR CONDITIONERS
 in the most popular size range
 1½ TO 20 TONS

Evaporative Condensers
 3 TO 20 TONS

Backed by more than 40 years
 of air cooling experience

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LOWER COST when your cross plates are all-aluminum

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Simply joined by a quick furnace braze—then ready to do a more efficient job because of its better joint and higher corrosion resistance! That's the story of the cross plate made of all Alcoa Aluminum.

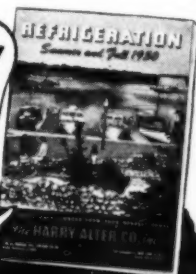
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Servicing the New Philco Room Air Conditioners

PART 10 How To Replace Refrigeration Units

UNIT REPLACEMENT PROCEDURE—MODELS 75-FC AND 100-FC

Two men should perform the unit replacement operation as follows:

1. Move the crated replacement unit to the air conditioner location, and take off the crate.

2. Pull the air conditioner away from the window, and take off the cabinet by removing the two rear cabinet mounting bolts and the side mounting bolts under each damper access door.

3. Loosen the attaching bolts on all legs, and lower the air conditioner to the floor. Take off the four adjustable legs.

4. Remove the power switch nut and positioning washer, then remove the switch box from the rear panel.

5. Remove the following parts by taking out the sheet metal attaching screws: Rear panel, upper and lower left side panel, upper right side panel, panel retainer and upper and lower front panel.

6. Take out the sheet metal screws which fasten the top flange of the condenser scroll to the condenser. Remove the condensate drain tube

from the scroll connection.

7. Remove the front and rear unit mounting bolts, which attach the left end of the unit to the chassis, as shown.

8. With one man lifting each end of the unit, the entire Super Power system can be lifted off the chassis.

NOTE: The evaporator plenum telescopes into the slots on three sides of the evaporator fan scroll.

9. Remove the shipping block and straps from the replacement compressor. Take off the unit hold-down clamps.

10. Remove the new unit from the crate base, and place it in position on the chassis. Do this carefully, to make sure that the evaporator plenum fits into the slots of the fan scroll. If either of these parts are bent during the replacement process, the seams around the joint should be sealed with permagum to prevent air leakage.

11. Re-assemble the air conditioner by reversing the procedure above. Make all wiring connections.

NOTE: Before crating the inoperative unit, make certain that the compressor hold-down straps and block are in place and tight. Also tighten the unit hold-down clamps, to fasten the unit to the crate base.

UNIT REPLACEMENT PROCEDURE—MODELS 150-FCW AND 200-FCW

In removing a defective unit and installing a new one in these models, the services of two men are required. The procedure given below should be followed:

1. Move the crated replacement unit to the air conditioner location, and remove the crate.

2. Shut off the water and power supply to the air conditioner.

3. Remove the air conditioner front panel, and drain the condenser of the

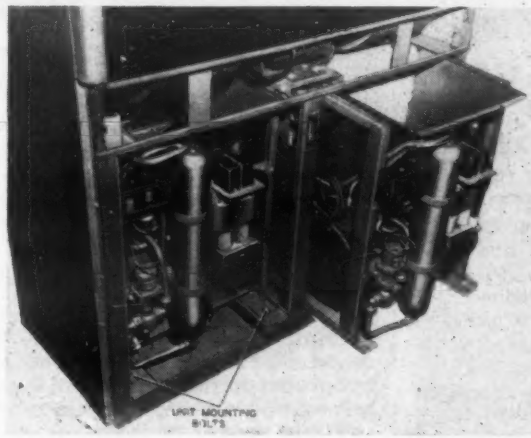


Fig. 7 shows how the Philco Super Power sealed unit slides out for replacement if needed.

unit being replaced, through the condenser drain plug.

4. At the rear of the unit, break the condenser water inlet and outlet connections.

5. Open the junction box, and disconnect all wires connected to the cable which enters through the right bottom junction box knockout.

6. Remove this cable from the junction box and the strain-relief clip attaching it to the unit frame.

7. Remove the sheet metal screws which fasten the evaporator plenum to the cross member supporting the fan scroll.

8. Remove the two front unit mounting screws.

9. Pull forward on the right and left side unit frames. The entire Super Power system will slide out, as shown in Fig. 7.

10. Take the new unit off the crate base, and remove the shipping block and straps.

11. Place the shipping block under the compressor of the defective unit,

and install the shipping hold-down straps.

12. Fasten the old unit to the crate base, and assemble the crate.

Install the new unit by reversing the procedure above, and wire it.

RETURNING DEFECTIVE SEALED UNITS

It is important that defective sealed unit assemblies be returned immediately after replacement is made. The defective unit must be securely mounted in its shipping crate. All parts, such as extra shipping fixtures, fixture clamps, hardware items, and the relay and capacitor, together with the Return Tag, properly filled out, must be included with the unit to be returned. It is important that the new relay and capacitor furnished with the replacement unit be used with the installation, and the old relay and capacitor returned in the crate with the defective unit.

(To Be Continued)

EDITOR'S NOTE: Summer may be gone in some parts of the country, but that doesn't make much difference to many window and room air conditioners, because the users are apt to turn them on almost any day in the year for ventilation if not for cooling. Thus the accompanying data on servicing the 1950 line of Philco air conditioners is timely. (Besides, it can be clipped and filed for future reference.)

This is the tenth installment in the series that is being published by AIR CONDITIONING & REFRIGERATION NEWS with permission of Philco Corp. and cooperation of Ed. Barth, manager of Philco refrigeration service.

Thompson Heads Worthington Sales Personnel and Training

HARRISON, N. J.—J. J. Thompson has been named manager of the Sales Personnel and Training Div. of Worthington Pump & Machinery Corp. here, according to W. H. Feldmann, vice president in charge of sales.

Thompson, now assistant manager of Worthington's Cincinnati office, will assume his new position Jan. 2.

A 17-year Worthington veteran, Thompson has been with that company since 1930 except for three years with the War Production Board from 1941 to 1944.



See Page 21

BETZ PANEL UNITS

FOR MOUNTING
ON BACK WALL
OR MULLION
for
REACH-INS
DOUGH RETARDERS
OR PASS THRU'S



Vertical discharge drip pan — oilless motor — baked enamel finish — and other outstanding features.

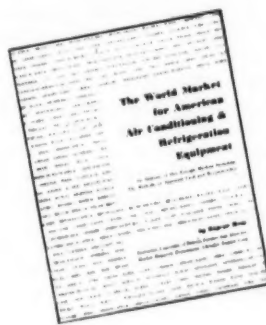
MODEL NO.	BTU AT 1" TD	CFM	SURFACE SQ. FT.	DIMENSIONS		
				H	W	D
130-R	130	204	48.64	34 1/4"	17 1/4"	9 1/8"
190-R	190	285	68.56	34 1/4"	22 3/4"	9 1/8"
260-R	260	385	85.50	34 1/4"	22 3/4"	10 5/8"

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by **Eugene Hesz** University of Detroit Instructor and Former Chrysler Export Corporation Assistant Director of Market Research.

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SALES PLAN
BOOSTS YOUR
PROFITS HIGH!

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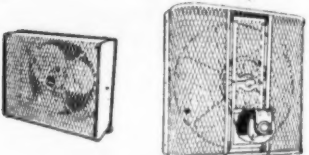
Coolair
Breeze Conditioning

PROPOSITION
FOR 1951!

For the tough going ahead, tie into a proposition that will pay off. Cool summer comfort has become a necessity to most businesses, home owners and tenants. Coolair Breeze Conditioning is within the financial reach of almost every prospect. Insure your 1951 profit picture with this unique proposition!

1 A Complete Line for Homes and Businesses!

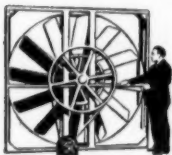
Air capacities from 2,320 to 154,000 CFM



Window and Wall Units



Single and Twin Attic Packages



Plus Home, Commercial and Industrial Units Up to 9' Blade Diameter

2 Valuable Franchise

The Coolair Franchise assures you of a market area large enough so you can be sure of real profit opportunities! There are now, or soon will be, distributors in most areas with stocks for dealers to draw from.

3 Sales Training

Authorized dealer personnel are trained under factory supervision to make proper recommendations to home owners, engineers and architects. You profit immediately from your Coolair Franchise!

4 New, Hard-Hitting Advertising and Promotion!

Coolair advertising and promotion helps you sell! Includes literature, displays, selling tools!

If your business can stand a sure-fire profit maker for 1951, send in the coupon today. No obligation.

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Leaders in Air Cooling for 23 years

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American Coolair Corporation,
Jacksonville 3, Florida

Please rush me the full information about the Coolair Proposition for 1951. We are interested in ☐ a dealership, ☐ a distributorship.

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Snell Tests on 'Drifreez' Cartridge Show It Safe For Refrigeration System

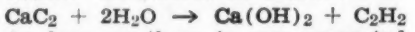
RICHMOND HILL, N. Y.—Tests made by the firm of Foster D. Snell, Inc., consulting chemists and engineers, have established that the "Drifreez" cartridge produced by Berna Corp. here is safe to use as a drier in refrigeration systems, the company states.

Some question had been raised because the Drifreez cartridge, in removing moisture from a refrigeration system, results in the formation of acetylene.

In its report on its tests, Foster D. Snell, Inc. said in part:

"The removal of moisture by Drifreez is based on a simple chemical reaction. The metallic acetylenes in the cartridge react with any moisture in the refrigerant to give alkali metal hydroxide and acetylene.

"If these acetylenes are a simple salt the reaction could be written for calcium as follows:



As long as there is any unreacted calcium carbide in the cartridge, any moisture entering the system will be removed by this reaction.

"The acetylene formed by the removal of moisture enters the refrigerant stream and is carried along with it. While acetylene alone could not readily be used as a refrigerant, in the presence of 'Freon' or methyl chloride it acts as one.

"When the 'Freon' or methyl chloride is condensed, the acetylene dissolves in the liquid refrigerant. After passing through the expansion valve, both substances expand to the gaseous state with absorption of heat equal to their latent heat of vaporization.

"Latent heats of vaporization are: 71.95 B.t.u. per pound for 'Freon-12' and 262 B.t.u. per pound for acetylene. Thus, weight for weight, the acetylene is a more efficient refrigerant than 'Freon-12'.

"The solubility of acetylene in 'Freon-12' could not be found in the literature. However, its solubility in carbon tetrachloride has been published, and it is reasonable to expect that it would be similar, since 'Freon-12' is dichlorodifluoromethane, which shows that two of the chlorine atoms of carbon tetrachloride have been replaced by fluorine, another halogen.

"Some point might be made by uninformed people that acetylene under high pressure or in liquid form is explosive. According to Julius Schmidt (*Textbook of Organic Chemistry*, 2nd English Edition, 1932), when acetylene is dissolved in organic solvents such as acetone, or admixed with other gases, it is insensitive to detonation even at high pressures.

"An investigation by the Bureau of Mines seems to indicate that as the molecular weight of the admixed gas increases, the amount necessary to prevent explosion decreases. The highest molecular weight they used was that of butane, which is 58. That of 'Freon-12' is 121.

"They found that the addition of only 21% of butane by volume prevents explosion of acetylene. Actually, the occasion to explode from application of fire or a spark would be most unlikely in this case because the refrigerant is in a completely closed system.

"Another straw man that might be raised is the possibility of the formation of the extremely explosive copper acetylide by reaction with the copper tubing.

"This is not the method for making this compound. It is found when

acetylene reacts with an ammoniacal cuprous solution.

"On the contrary, in the presence of copper at high temperatures, 200-250° C., a condensation product called cuprene is formed. Such temperatures would never be found in a refrigeration system because the critical temperatures of 'Freon-12' and methyl chloride are 111.7° C. and 143.12° C., respectively.

"As for corrosion due to the use of Drifreez, it seems likely that it would prevent it rather than cause it. Most corrosion of metals is due to acidic conditions. The calcium hydroxide formed in the Drifreez cartridge would effectively neutralize any acid formed in the refrigerant."

In discussing its experimental methods and results, the Foster D. Snell report said:

"A mixture of equal volumes of acetylene and 'Freon-12' was taken for experimentation. This would certainly be an extreme condition in a refrigerating system. Such a mixture contains 50% by volume or 17.7% by weight of acetylene.

"This mixture was compressed to 240 p.s.i.g., 17.3 atm. absolute, in a pressure bomb and kept at ambient temperatures of 60° F. to 86° F. for three weeks. Other than slight changes in pressure due to temperature changes, the pressure remained constant, indicating that there was no reaction. Since the pressure head of 'Freon-12' at 86° F. is 107.9 p.s.i.a., 240 p.s.i.g. is well above any pressure to be expected in a refrigeration system.

"Part of the bomb contents was bled through a glass nozzle and a match applied to the gas stream. It did not burn.

"The rest of the contents of the bomb was passed into a test tube immersed in a bath of ethyl ether and solid carbon dioxide, which gives a temperature of -100° C. The gases condensed to a liquid, indicating that under those conditions acetylene and 'Freon-12' are miscible as liquid in a 1:1 ratio by volume of gas.

"From the foregoing theoretical considerations and experimental results, we conclude that the use of Drifreez cartridges for removing moisture from refrigerants such as methyl chloride and the 'Freons' is perfectly safe.

"The acetylene formed does not present a hazard in a closed system such as that used in refrigeration."

Nash-Kelvinator Names Purdy To Washington Post

DETROIT—Appointment of Richard T. Purdy as Washington representative of Nash-Kelvinator Corp. was announced by A. M. Wibbel, vice president.

"Nash-Kelvinator is establishing a Washington office to make sure that its civilian production and military programming gear into government defense plans and policies," Wibbel said. "Purdy will maintain Wash-

ington contact and will assist in our shaping of future programs to meet national requirements."

Since early in 1946, Purdy has been a Detroit sales representative for the Budd Co. Previously he was manager of the Motor Truck Div. of the Automobile Manufacturers Association. During the war he was assistant to the director of the Automotive Council for War Production.

Purdy's headquarters will be in the Nash Motors Washington zone offices at 1840 Fenwick, N.E.



R. T. Purdy



A TOP-RANKING SALESMAN—A. R. Benua, president of the Ebco Mfg. Co. (left), congratulates M. L. Trabue of Graybar Electric Co. in Columbus, Ohio, who was one of the top prize winners in a nationwide sales contest sponsored by Ebco; 1,800 salesmen participated.

'Oasis Sweepstakes' Winners Announced

COLUMBUS, Ohio—Winners in the nationwide 1950 "Oasis Sweepstakes" sales contest have been announced by A. R. Benua, president of Ebco Mfg. Co., sponsor. More than 1,800 Oasis water cooler and air drier salesmen participated.

Award ceremonies were held for the five top salesmen throughout the U. S., who were presented with specially inscribed Oasis air driers, in addition to regular prizes received throughout the contest.

The winners were: R. J. Schweitzer, G. E. Supply Corp., Washington, D. C.; C. R. Fleming, G. E. Supply Corp., Detroit; Gordon Mueller, Inc., Long Island City, N. Y.; M. L. Trabue, Graybar Electric Co., Columbus, Ohio; and J. G. Brooks, G. E. Supply Corp., Washington, D. C.

Schweitzer and Brooks received their awards from Joseph Siegert, Oasis eastern district manager. Fleming was given his prize by R. H. Orthoefer, Oasis assistant sales

manager. Lee C. Love, Oasis sales manager, handled the award to Gordon Mueller, Inc. A. R. Benua made the Oasis presentation to M. L. Trabue.

Others finishing among the first 20 in the contest were:

W. B. Long, Water Cooler Service & Sales, Cleveland; H. G. Mitchell, Graybar Electric Co., Columbus, Ohio; E. D. Nye, C. M. Sharts, R. H. Davis, and L. C. Peruzzie, G. E. Supply Corp., Washington, D. C.; J. W. Brokaw, Superior Distributing Co., Kansas City, Mo.; G. R. Copeland, G. E. Supply Corp., New Orleans; C. N. Slater, Straus-Frank Co., Houston, Tex.; Al Pohlmann, G. E. Supply Corp., Washington, D. C.; W. A. Taylor, Electrical Equipment, Richmond, Va.; Wm. LaRoche, Flint Refrigeration, Birmingham, Ala.; S. E. Pearson, G. E. Supply Corp., Pittsburgh; L. G. Bright, Louis Lerro Co., Philadelphia; and Guy Walker, G. E. Supply Corp., Chicago.

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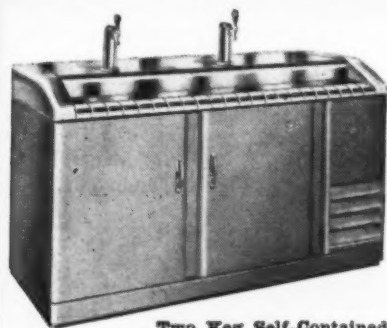
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BACK TO FUNDAMENTALS

Refrigeration Principles for
Beginners & Experienced Engineers, Salesmen, and Dealers

By K. M. Newcum, Author of
THE MASTER SERVICE MANUALS

Theory of Refrigeration (6)

STANDARD TON OF REFRIGERATION

In the commercial use of ice the "standard ton" is used. One ton of 2,000 lbs. In figuring refrigeration by the use of ice, it is generally assumed that the temperature of ice is 32° and that as soon as the ice has melted the water immediately leaves the refrigerator. Hence the latent heat of fusion is the only factor considered in determining the amount of refrigeration obtained from the process of melting ice.

Hence to figure the refrigerating effect of a ton of ice take 2,000 (number of lbs.) \times 144 (latent heat of fusion of 1 lb. of ice) or 288,000 B.t.u. Thus each hour each ton of ice absorbs 12,000 B.t.u. (288,000 \div 24).

In figuring refrigeration, the same ton basis is used. Condensing units are rated in "tons" or *ice meltings equivalent* (I.M.E.) per hour. Evaporators are figured in the number of B.t.u. they will absorb under a given set of conditions, etc. Hence ice forms the basis for figuring or rating refrigeration equipment. It is therefore important that the foregoing study of latent heat of fusion is thoroughly understood.

LATENT HEAT OF EVAPORATION

Evaporation is the process of changing a liquid to a vapor.

Latent heat of evaporation (or vaporization) is the quantity of heat necessary to change a liquid to a vapor (evaporate) without increasing the temperature of the substance during the process.

In the study of matter it was explained that while a substance is in a liquid state, its molecules are

close together (though not so close as they are in the solid state). As heat is applied to change the state of a liquid to that of a vapor, the molecular motion is increased until a certain known point is reached where the molecules are in such rapid motion that they separate from each other to form a vapor. A very large quantity of heat is necessary to force these molecules apart, and this heat is known as the *latent heat of evaporation* (or vaporization).

It has been determined that 144 B.t.u. are necessary to change the physical state (in this case melt) 1 lb. of 32° ice into 1 lb. of 32° water. It is also known that 970 B.t.u. are necessary to change the physical state (evaporate) of 1 lb. of 212° water to 1 lb. (by weight) of 212° steam. Hence 970 B.t.u. is the latent heat of evaporation (or vaporization) of 1 lb. of water. This is shown in Fig. 11.

This difference between 144 B.t.u. (latent heat of fusion) and 970 B.t.u. (latent heat of evaporation) upholds the theory that a much greater quantity of heat is necessary to change a liquid to a gas than is required to change a solid to a liquid.

Example No. 1 under latent heat of fusion (see Fig. 10) took 1 lb. of 10° ice through a sensible temperature increase, through the melting (fusion) process, and on up to 70° water. A total of 193 B.t.u. was absorbed. To show by comparison the large quantity of heat required for evaporation, Example No. 1 under latent heat of evaporation is given, taking the same 1 lb. of 70° on through until it becomes 212° steam. It is illustrated in Fig. 11.

EXAMPLE 1—LATENT HEAT OF EVAPORATION

A. To increase the temperature of 1 lb. of water from 70 to 212° (boiling point of water) one B.t.u. will be needed for each degree. 212° minus $70^\circ = 142^\circ$. 142 (degrees) \times 1.00 (specific heat of water) = 142 B.t.u.

B. To change the 1 lb. of 212° water to 1 lb. of 212° steam, 970 B.t.u. will be added, as 970 B.t.u. is the latent heat of evaporation of 1 lb. of water.

C. To arrive at a total, add 142 and 970 and it will be found that 1,112 B.t.u. are required.

Comparing the total B.t.u. for latent heat of fusion (144) to the quantity of latent heat of evaporation (970), it will be noted that the latter required 6.74 times as many B.t.u. as the former.

To determine the B.t.u. absorbed in the process of evaporation of any liquid, multiply the number of pounds of the liquid by its latent heat of evaporation. Tables are given later in this book, showing the latent heat of evaporation of the common refrigerants used in refrigeration systems.

It is the latent heat absorbed in the evaporation of the refrigerant that produces the "refrigerating effect" (temperature reduction), hence much importance is attached to the study of this simple physical law.

CONDENSATION

The process of condensation (or liquefaction) is just the reverse of evaporation (or vaporization). Condensation is the process of changing a vapor to a liquid.

During evaporation of 1 lb. of water, 970 B.t.u. were required to force the molecules to separate in the form of steam.

If this 1 lb. of 212° heat-laden steam were collected in a much larger container such as shown in Fig. 12, and the supply of heat removed, the heat (970 B.t.u.) contained in the steam would be given to the cooler air in the room, and the molecules would be reattracted to each other to again form water.

Hence condensation is the process of giving up the latent heat absorbed in the process of evaporation.

Many of us have noticed how drops of water condense on the outside of a glass of ice water on a hot, humid

Some people are blessed with remarkable memories, and can recall everything they've ever read or studied. Most of us, however, need to renew our learning at periodical intervals. It is with that in mind that the editors of AIR CONDITIONING & REFRIGERATION NEWS proudly present a new series of articles on what makes refrigeration work by the world's most widely read authority on this subject, K. M. Newcum. Refrigeration servicemen and engineers will recognize his name at once, for they have bought hundreds of thousands of his easy-to-read books.

Sales managers with whom this series has been discussed have expressed the fervent hope that dealers and their salesmen will read it, too. Anyone who sells household and commercial refrigeration, freezers, and air conditioning should be able to describe the mechanisms of their products to customers and prospects. Too often factory material on this subject is largely confined to the superiority of one make over another; and a great many dealers never get a chance to see the whole picture.

So here it is:

(1) A "refresher" course for servicemen and engineers.

(2) A sound education in fundamental principles for dealers and salesmen.

day. These drops of water are actually being condensed out of the humid (damp) hot air, as the heat contained in the vapor is being absorbed by the colder surfaces of the glass.

The fogging up of the windshield or windows of an automobile is caused by moisture from humid air being condensed on the colder surface of the glass.

(To Be Continued)

Baker compressor units, equipped with Allen-Bradley motor starters, installed in Westmont Theater, Philadelphia, Pa.



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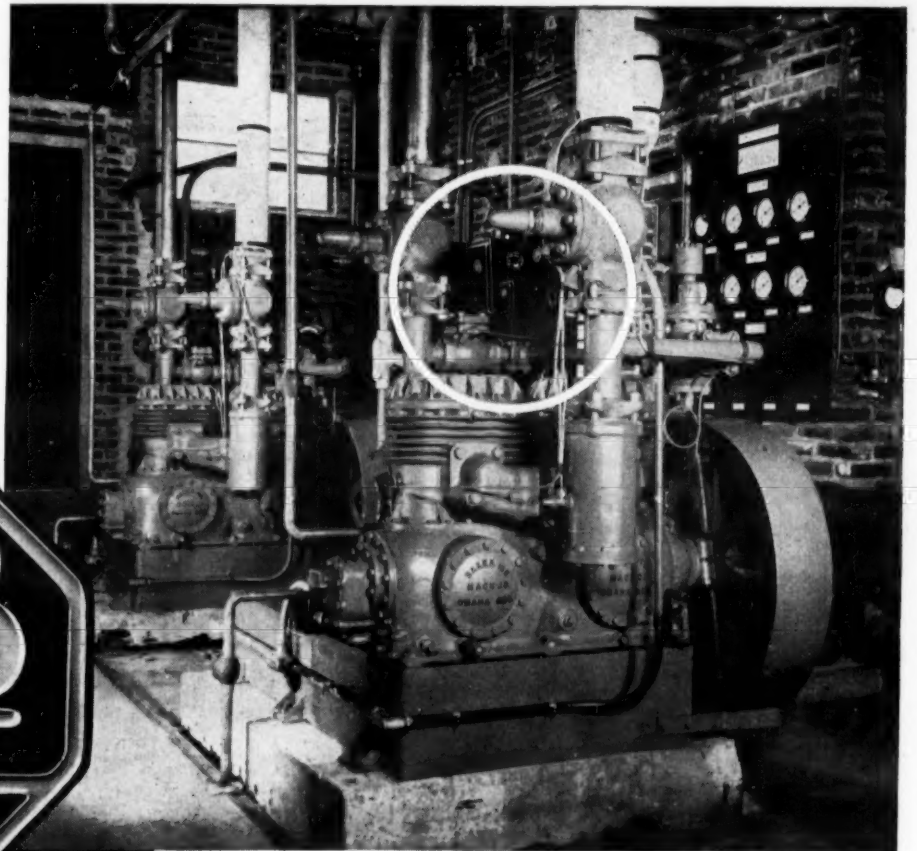
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Condensation

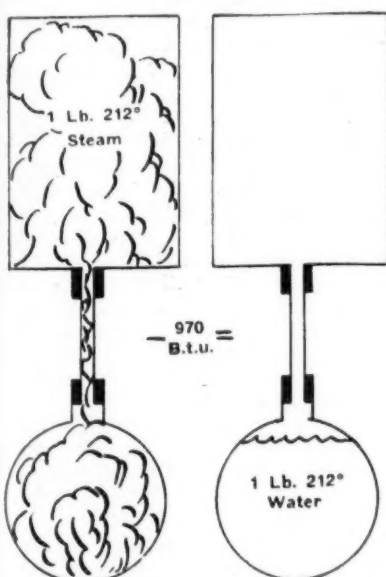


Fig. 12—Condensation is the process of changing the state of a vapor or a gas to a liquid. Condensation is the exact reverse of evaporation and the same exchange of heat takes place in both processes. The latent heat units (970 B.t.u.) which were absorbed in evaporation, shown in Fig. 11, are given up in condensation, shown above.



See Page 21

ALLEN-BRADLEY SOLENOID MOTOR CONTROLS

Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Mixing Water Vapors & 'Freon-12' Vapors

In a recent series of articles in this column on "Air and Moisture," it was emphasized that what we call atmospheric air, or just plain air, is really a mixture of air itself (which we often call "dry air" in order to differentiate it from atmospheric air) and water vapor, which we sometimes call moisture. This atmospheric air, which is a mixture of dry air and water vapor, is often called "moist air," although this is a rather incorrect expression, for air itself is not moist, but it can and does have water vapor mixed with it.

This may sound like splitting hairs, but it is important to a study of atmospheric air that it be thoroughly understood that what we call air is really a mixture of two separate gases, dry air and water vapor, for each of them behaves differently as the temperatures and pressures of the air-water vapor mixture change.

Water, like the refrigerants am-

Temperature °F.	Water Vapor		'Freon-12' Vapor	
	Pressure In Inches of Mercury Vac.	Density In Pounds per Cu. Ft.	Pressure In Lbs./Sq. In. Gauge Or In Inches of Mercury Vac.	Density In Pounds per Cu. Ft.
-40	29.917	.000007	10.96 ins.	.2557
-30	29.914	.000013	5.45 ins.	.3238
-20	29.908	.000021	.6 lbs.	.4042
-10	29.901	.000040	4.5 lbs.	.4993
0	29.883	.000068	9.2 lbs.	.6109
10	29.858	.000110	14.6 lbs.	.7402
20	29.818	.000177	21.0 lbs.	.8921
30	29.756	.000277	28.5 lbs.	1.065
40	29.673	.000410	37.0 lbs.	1.263

monia and "Freon-12," boils or vaporizes at a certain definite pressure for each temperature, and at this condition the vapor is said to be "saturated." At saturation, the vapor is as "rich" or "dense" as it can be at its temperature and pressure. The space that it occupies can hold no more vapor at that temperature and pressure.

Nevertheless, that same space can hold another gas, such as dry air, "Freon-12" vapor, etc. at the same time. The two gases can exist together in the same space at the same time, but they act independently of each other if the temperature of the space changes.

If water is at its saturation temperature, and we add heat to it, the water stays at the same temperature, and the heat that we add goes into changing the liquid into a vapor that we call water vapor, steam, moisture, etc., and this vapor is at the same temperature as the water from which it came.

If we try to cool the water vapor at its saturation temperature, that is, take heat away, the water vapor

does not cool; instead it condenses and changes back to a liquid, water. The temperature at which water changes to a vapor or back again, is called by various names, boiling temperature, condensing temperature, saturation temperature, and in the case of water vapor in air condensing to water, it is called the "dewpoint temperature," for it is at this temperature that dew starts to form.

We can use this term "dewpoint temperature" whether the gas that the water vapor is in is air or some other gas such as "Freon-12," for example. Indeed, it is commonly used in referring to the temperature at which water vapor or moisture in the system condenses out to form free water.

The dewpoint of a refrigerating system, or rather a particular vessel in a refrigerating system, depends upon the density of the water vapor in that vessel, that is, how much water vapor there is in the vessel; the more water vapor there is in the vessel, that is, the greater the density, the higher will be the dewpoint, and the water vapor will condense out to form free water at a comparatively high temperature.

and the pressure will be 29.917 in. of mercury vacuum for the water vapor, and 10.96 in. of mercury vacuum for the "Freon-12" so the difference between .000068 and .000007 or .000061 lbs. of water, and between .6109 and .2557 or .3552 lbs. of "Freon" vapor, will condense out into ice and liquid "Freon-12" respectively.

Therefore, the saturation or dewpoint temperature is what controls the pressure and density of the water and "Freon" vapor in the tank. So at 0° F. the tank will hold (.6109 ÷ .000068) almost 9,000 times as much "Freon-12" vapor by weight, as water vapor! Also the pressure of the "Freon-12" will be a great deal more (23.9 ÷ .01860) almost 1,300 times as much as that of the water vapor.

ONE DOES NOT AFFECT THE OTHER'S PRESSURE AND DENSITY

Now here is the surprising thing! It does not make any difference to either the water vapor or the "Freon-12" vapor, whether the tank is empty (has a perfect vacuum in it) or not. If the tank at 0° has a little less than two thirds of a pound of "Freon-12" in it, at a pressure of 23.9 p.s.i.a. (9.2 p.s.i.g.) it is a saturated vapor and can hold no more "Freon-12" vapor.

But it can also hold some other gas in addition to the "Freon-12." It can hold .000068 lbs. of water vapor at the pressure of the water vapor at its own pressure of 29.883 in. of mercury vacuum (about 1/50 of a pound per square inch absolute). And it isn't just because the water vapor is "light," that is, of such low density.

In addition to the "Freon-12" vapor, we could put in almost any other vapor that did not react chemically with "Freon-12," for example carbon dioxide. At 0°, carbon dioxide has a density at saturation of the vapor of 3.427 lbs. per cu. ft. So this could be put in along with the 1/50 of a lb. of "Freon-12" without affecting the temperature-pressure relationship of the "Freon-12." Moreover the partial pressure of the carbon dioxide would be 305.5 p.s.i.a., so the total pressure would be 329.4 p.s.i.a. or 314.7 p.s.i.g.

THE BEARING OF ALL THIS ON REMOVING MOISTURE

But to go back to our tank of 1 cu. ft. capacity; let us consider it filled (at 0° F.) with "Freon" vapor at saturation, but with no liquid "Freon-12" in it. Therefore, there is .6109 lbs. of "Freon" in it and the pressure of the "Freon-12" is 9.2 p.s.i.g. or 23.9 p.s.i.a.

Also in this tank, at 0°, is a saturated water vapor, but no liquid water or ice; so there is .000068 of a pound of water in the tank, at its partial pressure of 29.883 in. of mercury vacuum (about 1/50 of a pound per square inch absolute).

Now what is this all about? What does it have to do with the man who is installing or servicing refrigerating machines?

It has a strong bearing on understanding how moisture or water vapor, as it is more properly called, can be removed from the refrigerating system. It was previously stated that for ordinary service operations, a good drier was the best means for removing moisture; and that is true.

But how about those unusual jobs that get a great deal of water into them in some way or another? In a future instalment we will apply these principles to removing moisture from a system by other means than driers.

Servicemen—by Radio, No Less

WEST POINT, Neb.—The R. E. A. has completed its new \$80,000 sales and office building here featuring a radio and dispatch room for servicemen, a modern kitchen for demonstration and display of electrical home appliances, a mimeograph room, large clerical office, and lobby. More than 800 persons attended the open house.

PRESSURE-TEMPERATURE RELATIONSHIPS IN MIXTURES OF GASES

As previously mentioned, water vapor can mix with other gases in the same manner as it mixes with dry air. However, some gases, such as sulphur dioxide and ammonia, react chemically with water to form acids or alkalies, but if water vapor is mixed with nitrogen or some other "inert" gas, there is no chemical action and the two gases mix mechanically and occupy the same space. Each obeys its own temperature-pressure laws as to boiling, condensing, and dewpoint temperatures, the same as if the other gas were not there. But, their two pressures combine or add together to form the total pressure in the tank that contains the mixture. This is, for our immediate purpose, the essence of Dalton's Law of Partial Pressures.

We see from Table 1 that a cubic foot of water vapor at a saturation temperature of 0° F., has a pressure of 29.883 in. of mercury vacuum (or an "absolute" pressure of .038 in. of mercury, or about 1/50 of a pound per square inch pressure) and a density of .000068 pounds per cubic foot.

That is, if we have a tank with an internal volume of 1 cu. ft., and this tank is at 0° F., and we put .000068 of a pound of water vapor in it, the water vapor pressure in the tank will be 29.883 in. of mercury vacuum (about 1/50 of a pound per square inch absolute).

DEWPOINT TEMPERATURE CONTROLS PRESSURE AND DENSITY

That is all the water vapor that a 1-cu. ft. tank will hold at 0°. If we try to put more in it, it merely condenses into water, which at that temperature freezes into ice. If we raise the temperature of the tank to 40°, we can put in .000410 lbs. of water vapor, and it will form a pressure of 29.673 in. of mercury vacuum (roughly 1/10 of a pound per square inch).

Now compare this with "Freon-12." At 0° the 1-cu. ft. tank will hold .6109 lbs. of "Freon-12" vapor at saturation, and the pressure of the "Freon-12" vapor will be 9.2 p.s.i.g. or 23.9 p.s.i.a.

Let us now put 1 cu. ft. of "Freon-12" gas into this tank in "on top" of the 0° water vapor. We can do this merely by connecting to another cylinder containing "Freon-12" at 0°. "Freon-12" vapor in an amount of .6109 lbs. will enter the 1-cu. ft. cylinder that already has .000068 lbs. of water vapor at 29.883 in. of mercury vacuum.

We have a 1-cu. ft. cylinder holding 1 cu. ft. of water vapor and 1 cu. ft. of "Freon-12" vapor, both at 0°.

If we cool the tank to -40°, it will hold only .000007 lbs. of water vapor and .2557 lbs. of "Freon-12" vapor,

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PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid set is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Armory; Watervliet Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

Description	Quantity	Invitation No.	Opening Date
Commanding General, ORD Tank Auto Center, 1501 Beard St., Detroit, Mich.			
Housing, Temperature	520 ea	1466	21 Dec 50
Thermostat			
Yards and Docks Supply Office, Port Hueneme, Calif.			
Attn.: Procurement Division			
Refrigeration	8 items	19833	26 Dec 50
Temperature Control			
District Public Works Office, Sixth Naval District, Charleston, S. C.			
Additional Refrigeration Room	1	25622	4 Jan 51
For Galley, Marine Barracks, Naval Base, S. C.			
Commanding Officer, U. S. Naval Air Station, Corpus Christi, Texas			
Range 4 Burner Apartment Type	1 ea	216-59-51	26 Dec 50
Range Gas Divided Top Burner	4 ea	216-59-51	26 Dec 50
Navy Purchasing Office, 111 East 16th St., New York City			
Display Cases, Open, Fruit	4 ea	7910	5 Jan 51
Officer In Charge, Navy Purchasing Office, Washington, D. C.			
Chilled Water Cooling Coil, Various	288	2875-S	4 Jan 51
Ventilation Heater, Size Various	141	2890-S	4 Jan 51
Officer In Charge, Navy Purchasing Office, Washington, D. C.			
Pressure Gage Tester	13	2889-S	3 Jan 51
Benders, Tube, Hand	117	4431	3 Jan 51
Device, Temperature Indicating-recording & Control	1	4455	4 Jan 51
Coolers, Drinking Water	77	4460	3 Jan 51
Aviation Supply Office, 700 Robbins Ave., Philadelphia, Pa.			
Tubing Seamless Copper Spec WW T 799 A Amend 1	5,000 ft		
Officer In Charge, Navy Purchasing Office, Naval Supply Center, Norfolk, Virginia			
Tees, Wrought Copper	50 ea	9430	28 Dec 50
Adapter, Wrought Copper, Copper To Female and Copper To Male	450 ea	9430	28 Dec 50
Elbows, Wrought Copper, Copper To Female and Copper To Male	800 ea	9430	28 Dec 50
Commanding Officer, Watervliet Arsenal, Watervliet, N. Y.			
Attn.: Procurement			
Fountain-Cooler-Water, Electric	4 ea	51-54	3 Jan 51
Naval Air Material Center, S & F Department, Naval Base, Philadelphia 12, Pa.			
Heat Exchanger for Portable Altitude Chamber	1 ea	9500-30660/51	2 Jan 51

Officer In Charge, Navy Purchasing Office, 11 East 16th St., New York 3, N. Y.			
Desiccant Activated	20,000 lb	7911	2 Jan 51
Supply Officer, Code 532, Naval Shipyard, Portsmouth, N. H.			
Coffee Urns, 10 Gal. with Steam Coils	2 No	102-8109	22 Dec 50
Cream Dispenser, 10 Qt.	3 No	102-8109	22 Dec 50
Coffee Urn Stand	1 No	102-8109	22 Dec 50

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.			
Cafeteria Kitchen Equipment	16 pcs	637	12-22-50
Evaporative Condenser, 6 Ton	1 ea	635	12-20-50
Evaporative Condenser, 3 Ton	2 ea	635	12-20-50
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.			
Steel Condensate Storage Tank, 3 x 6 Ft., 1/4" Steel	1 ea	642	12-26-50
Stream-Line Copper Fittings	Misc	643	12-20-50
Chief, Purchase Division, Federal Supply Service, General Services Administration, Denver, Colorado			
3" Galvanized Pipe	2,500 ft	2062	12-22-50
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.			
Tank, Hot Water Storage, Copper-Silicon Alloy, 575-Gal.	1 ea	649	12-27-50

U. S. DEPARTMENT OF COMMERCE

Description	Quantity	Reference No.	App. Bid Date
Chief, Procurement Section, National Bureau of Standards, 620 11th St., N.W., Washington 25, D. C.			
Copper Tubing	3,200 ft	B-2-1168-51	12-20-50
Chief, Procurement Branch, Civil Aeronautics Administration, 1200 Exchange Building, Seattle 14, Wash.			
Furnish the Following Pieces of 4" x 4" Square Duct:			
90-Degree Elbows	8 ea	7-51-5316	12-28-50
45-Degree Elbows	16 ea	7-51-5316	12-28-50
Telescope Fittings	34 ea	7-51-5316	12-28-50
T Fittings and Pull Box	34 ea	7-51-5316	12-28-50
Nipples, 6"	8 ea	7-51-5316	12-28-50
5 Feet Straight Sections	142	7-51-5316	12-28-50

CONTRACTS AWARDED AS OF DEC. 6, 1950

Description	Quantity	Dollar Value	Contractor and Address
Chicago Quartermaster Depot, U. S. Army, 1819 West Pershing Rd., Chicago 9, Ill.			
Refrigerators, Portable, 150 cu. ft.	100	208,206.00	U. S. Thermo Control Co., Minneapolis, Minn.
Ranges, Elec. Hvy. Duty, Hotel Type	90	72,946.60	Hotpoint, Inc., Chicago, Ill.
Ranges, Elec. Domestic, 4-Burner	50	42,434.00	Phillips & Buttorf Mfg. Co., Nashville, Tenn.
Dishwashing Machines	80	47,724.00	Peters-Dalton, Inc., Detroit, Mich.
Dishwashing Machines	160	87,568.00	Gresham & Co., Inc., Kansas City, Mo.
Armed Services Medical Procurement Agency, 84 Sands St., Brooklyn 1, N. Y.			
Tent, Oxygen, Refrigerated	100 each	40,695.00	O.E.M. Corp., Fitch St., E. Norwalk, Conn.
Ships Parts Control Center, Naval Supply Depot, Mechanicsburg, Pa.			
Valves & Valve repair parts	4,022	34,782.00	Kunkle Valve Co., 119-121 S. Clinton St., Fort Wayne 2, Ind.
Department of the Navy, Bureau of Ships, Washington 25, D. C.			
Battery Cooling Water Pumping Units	49 ea	99,449.72	Walter H. Eagan Co., Inc., 2336 Fairmont Ave., Philadelphia 30

Colombian Concern Adds Worthington Products

HARRISON, N. J.—J. Glottmann, S. A., has completed arrangements with Worthington Pump & Machinery Corp., here, to carry its air conditioning and refrigeration equipment line.

The firm supplies the territory of the Republic of Colombia with commercial and home refrigeration equipment, theater projection and sound equipment, radios, phonographs, and business machines. It operates three retail stores, headquarters office, warehouse, and display room in Bogota and five branches throughout the South American republic.

The firm is planning to set up a plant in Colombia to produce home refrigerators as well as ducts and equipment in connection with Worthington air conditioning and refrigeration equipment.

Walton Appointed to G-E Appliance Marketing Post

BRIDGEPORT, Conn.—Robert C. Walton has been appointed assistant to the manager of marketing of the General Electric appliance and merchandise department, it has been announced by L. H. Miller, manager of marketing.

Walton was formerly assistant to the manager of the household refrigerator division. He joined General Electric in the year 1927 following graduation from the University of Michigan.

Admiral Distributors Meet In Chicago, Jan. 4-6

CHICAGO—Admiral Corp. will hold its mid-winter distributor convention here, Jan. 4-6, immediately prior to the winter market session of the American Furniture Mart, which opens the following week.

According to Wallace C. Johnson, vice president in charge of sales, distributors will be housed at the Drake hotel, with business sessions being held at the 8th St. theater.

For efficient heat transfer "Ro-Fin" Tubes



There are nearly 100 sizes of Rome Extended Surface Helical Fin Tubing in production... with or without threaded end connections, or to be used with standard flare connections.

Write for information on your heat transfer problems:



222 Canal Street • Rome, N.Y.

TELL THE WORLD

About Your most unusual air conditioning application (And Win a \$100 Prize While You Are Doing It). Here's your chance to tell the whole industry about your pet air conditioning installation and win extra money to pay off those Christmas bills at the same time.



It Takes Only A Few Minutes To Prepare An Entry

AIR CONDITIONING & REFRIGERATION NEWS

\$1,000.00 Prize Contest

3 CONTEST DIVISIONS

Room Cooler Packaged Unit Central System

You may enter all three!

3 SETS OF PRIZES

\$100 First Prize in Each Division

Second \$50 Third \$25 66 Other Prizes

In case of ties, duplicate prizes will be awarded. Judges decisions are final.

DON'T WAIT! ENTER NOW!

All entries must be in by Jan. 10, 1951

Send coupon below (or facsimile) with your entry:

AIR CONDITIONING & REFRIGERATION NEWS

450 W. FORT ST., DETROIT 26, MICH.

Enter me in the following division:

Room cooler ☐ packaged unit ☐

central system ☐

Picture is attached ☐ under

separate cover ☐

Name

Firm

Street & No.

City

State

Please check distributor ☐ dealer

☐ contractor ☐ service ☐ other

12-18-50

Deepfreeze Moves To Larger Space In Mart

CHICAGO—Moving of its Chicago sales office from space 1447 to space 1469 in the Merchandise Mart was announced here by John Fellman, recently appointed manager of field sales, for Deepfreeze Division, Motor Products Corp.

Fellman, who makes his headquarters here, said the new quarters provide some 200 sq. ft. more area and more wall space for the display of household appliances.

SCHNACKE COMPRESSORS AND CONDENSING UNITS with THERMATROL

- maintains EVEN Evaporator Temperature

Thermatrol is the most efficient, least expensive and simplest type of capacity control available. Reduces in a gradual curve—not in steps, and eliminates unnecessary cycling.

Schnacke advance engineered compressors feature refrigerant cooled, replaceable cylinder sleeves, balanced forged crankshafts, positive forced feed lubrication, efficient suction and discharge valves, insert automotive type bearings, etc. High efficiency and trouble-free operation with little vibration assure satisfaction. Thousands of discriminating engineers and users the world over are convinced of Schnacke quality through proven performance.

Schnacke Compressor Units range from 5 H.P. to 50 H.P. and Condensing Units from 5 H.P. to 25 H.P. Write for further information.

SCHNACKE, INC. 1016 E. COLUMBIA ST. EVANSVILLE, IND.

Smith Heads Baker--

(Concluded from Page 1, Column 5)

ated with the Frigidaire Div. of General Motors and the Carrier Corp.

During World War II Smith was with the War Production Board in Washington, as chief of the branch having jurisdiction over the commercial refrigeration, air conditioning, and food machinery industry.

At the present time, he is also a director of the Air Conditioning and Refrigeration Manufacturers Association and chairman of this organization's Government Requirement Committee.

During the 11 months ending Nov. 30, 1950, Baker's total volume of refrigeration and air conditioning business has been increased 49% over the same period in 1949. In manufactured products, Baker's business is ahead over 76%.

ness is ahead over 76%.

In addition to manufacturing refrigeration and air conditioning equipment, Baker factory facilities are producing a substantial quantity of airplane and helicopter parts for the Bell Aircraft Corp.

To provide ample manufacturing capacity for the increased demand for Baker's regular products, present and contemplated war work, its production facilities at South Windham have been greatly expanded and additional new machinery equipment installed. Further expansion is planned for February when several thousand more feet of floor space become available.

Baker also maintains manufacturing production in Omaha, Neb.; St. Louis, Los Angeles, and Seattle.

Harvey Gaylord, acting president of Baker for the past year, will continue to serve on the executive committee of the corporation. However, he will devote his full time to interests of the Bell Aircraft Corp.

Fox Named Ad Mgr. for Minneapolis-Honeywell

MINNEAPOLIS—Eldon E. Fox has been appointed advertising manager of Minneapolis-Honeywell Regulator Co., H. D. Bissell, director of merchandising, announced. Fox has left Young and Rubicam, Inc., New York, to take the new position.

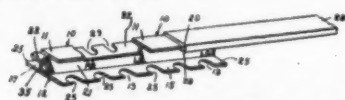
A graduate of Dartmouth college and the Harvard Graduate School of Business, Fox joined Young and Rubicam in 1941 and served in various departments including media and research and later as account executive for several accounts. In his last position with the advertising agency, he was account executive for Corning Glass Works and Time and Life magazine accounts.

Fox entered the United States Army as a private in 1942 and was honorably discharged as a major, Field Artillery, in 1945, after serving both in this country and the Pacific theater.

PATENTS

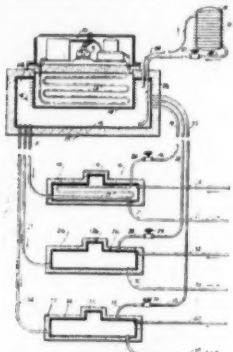
Week of June 20
(Continued)

2,512,502. BOTTLEHOLDER FOR HOUSEHOLD REFRIGERATORS. Anthon E. Paschell, Des Moines, Iowa. Substituted for abandoned application Serial No. 489,913, June 7, 1943.



1. In a storage compartment, a device for holding bottles comprising track means supported on a wall of the compartment and extended in a direction from front to rear of the compartment, a rack member having a portion thereof movably supported on said track means, a lower horizontal portion and an upper horizontal portion on said rack member each said lower and upper horizontal portions having longitudinally spaced bottle-receiving and supporting slots therein, with the slots in said upper and lower horizontal portions being in vertical alignment but with the slots in said upper horizontal portion of a size smaller than the slots in said lower horizontal portion, whereby a bottle may be supported in a slot in said lower horizontal portion by means of an enlarged portion of said bottle resting upon edges of the slot and a bottle having a relatively slender neck may be similarly supported in a slot in said upper horizontal portion and may depend through the aligned slot in the lower horizontal portion, said rack member being movably outwardly from the compartment so that bottles supported on said rack member are successively movable to positions outwardly from the compartment.

2,512,545. STRUCTURE FOR AND METHOD OF TRANSFER, EXCHANGE, CONTROL REGULATION, AND STORAGE OF HEAT AND COLD. Frederick E. Hazard, Buffalo, N. Y.



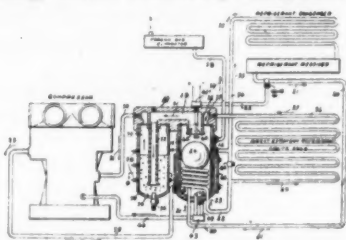
1. In heat transfer and exchange apparatus, a secondary system comprising an ultimate heat transfer and exchange unit, a subsidiary secondary reservoir and a master secondary reservoir, conduit means interrelating each to the other in antecedent and superior relation in the order named, said ultimate heat transfer and exchange unit, said subsidiary secondary reservoir and said master secondary reservoir each having a volume of suitable heat transfer and exchange fluid therein and at least two of said volumes being separated one from another, said master secondary reservoir being in heat transfer and exchange relation with said subsidiary secondary reservoir and the latter being in heat transfer and exchange relation with said ultimate heat transfer and exchange unit solely by thermo-siphonic flow of the heat transfer and exchange fluid contained by each through said conduit means, the latter having appropriate inlets and outlets at elevations so differing as to induce thermo-siphonic flow of said heat transfer and exchange fluid, means for controlling and regulating the temperatures in selected portions of said system and means for creating a temperature condition in said secondary system differing from ambient temperature.

Week of June 27

2,512,758. COMBINED REFRIGERANT PURIFIER AND CONTROL APPARATUS. Joseph F. Winkler, Philadelphia, Pa.; Alma Stamberger Winkler, executrix of said Joseph F. Winkler, deceased, assignor to Winkler, Morgenthaler, Inc., Philadelphia, Pa., a corporation of Pennsylvania. Application Oct. 3, 1946, Serial No. 701,034. 9 Claims. (Cl. 62-127.)

1. A refrigerating apparatus including a compressor, a condenser, and an evaporator, a conditioner including a first casing, a second casing disposed in heat

transfer relation to said first casing, means conducting low temperature refrigerant from said evaporator to said first casing, means conducting refrigerant gas



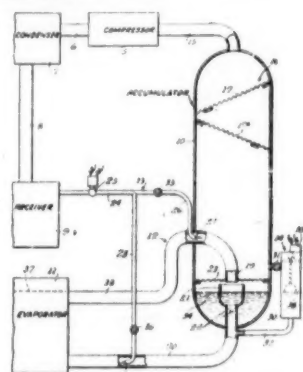
from said first casing to the intake side of said compressor, means conducting high temperature compressed gas from the discharge side of said compressor to said second casing, means conducting said high temperature gas from said second casing to said condenser, a non-condensing gas eliminator, and means connecting said second casing with said eliminator for removing non-condensing gases.

2,512,759. DEVICE TO FACILITATE THE REMOVAL OF ICE TRAYS. William M. Allen, Glendale, and Robert A. Anderson, Hamilton, Ohio, assignors to Model Crafters Inc., Hamilton, Ohio, a corporation of Ohio. Application Feb. 26, 1947, Serial No. 731,156. 3 Claims. (Cl. 62-1.)



1. A device of the class set forth, comprising an element adapted to rest upon the shelf of a refrigerator evaporator, and to support an ice cube tray in spaced relation to said shelf, said element having substantially line contact with one at least of the surfaces of said shelf and said tray, said element comprising of rectangular metal loop member, the ends of said metal loop member being axially aligned in a short side of a rectangle and being enclosed in a tube of thermally non-conductive material, the ends of said metal loop member adjacent said tube being bent upwardly to form a handle member, and said metal loop member being coated with a freezing inhibiting paint.

2,512,869. METHOD AND APPARATUS FOR CIRCULATING REFRIGERANTS. James C. McBroom, Van Nuys, Calif. Application April 24, 1948, Serial No. 23,005. 7 Claims. (Cl. 62-126.)

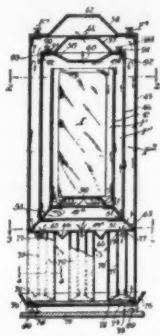


1. In a refrigerating system, an evaporator, an accumulator, flow control means between said evaporator and accumulator for liquid refrigerant, means embodied in said flow connection means for minimizing the turbulence of said liquid refrigerant entering the accumulator to thereby minimize the formation of globules of refrigerant in the vapors that pass off from said liquid, said latter means comprising a downwardly directed pipe terminating in the accumulator above the bottom thereof and a funnel within the accumulator and extending above the bottom thereof, said funnel being receptive of flow from the downwardly directed pipe and connected to discharge into the evaporator, said funnel having orifices that discharge part of the flow received thereby into the accumulator.

2,512,916. METHOD AND APPARATUS FOR EFFECTING EXPANSION OF GAS. Alfred G. Brown, Los Angeles, Calif., assignor of one-half to L. T. Sopin, Los Angeles County, Calif. Application April 9, 1943, Serial No. 482,400. 1 Claim. (Cl. 62-91.5.)

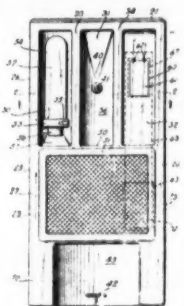
Refrigerating apparatus comprising a cabinet having side walls providing heat transfer surfaces, a pair of nested casings

within the cabinet, the side walls of the casings providing heat transfer surfaces and being spaced apart and from the side walls of the cabinet to provide gas passageways therebetween, means supporting



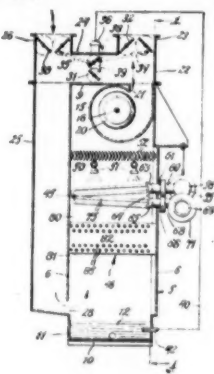
a supply of solidified CO₂ with its side wall spaced from the side walls of the innermost casing, a partition in the cabinet beneath the casings, said partition providing a space below the casings in communication with the outermost passageways, holes through the partition, and a plurality of sub-expansion members each in communication with one of the holes and each consisting of a pair of tubes nested with their side walls spaced apart to provide a gas passageway therebetween, the innermost tube of each sub-expansion member being in communication at its top end with one of said openings and being in communication at each of its end portions with the gas passageway therearound.

2,512,961. WATER COOLER. Samuel O. Morrison, Pine Ridge, Pa., assignor to Sunroc Refrigeration Co., Dover, Del., a corporation of Delaware. Application Nov. 21, 1947, Serial No. 787,405. 4 Claims. (Cl. 62-141.)



1. In a water cooler, a cabinet of generally rectangular front having a bottom recess, an intermediate grille and an upper dispensing and disposal portion subdivided laterally into three portions, at least two of which are recessed inwardly, a water cooling compartment in the upper portion of the cabinet, water cooling means in heat transfer relation with the water cooling compartment, a mechanical refrigeration unit connected to the water cooling means, a water dispenser having water connection to the water cooling compartment and located in the recess of one of the recessed portions above the bottom thereof, a sump in the bottom of said recess, a waste water compartment below the sump and connected thereto, and a drain cock for the waste water compartment behind the grille and accessible through the bottom recess.

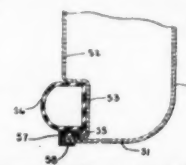
2,513,010. HEAT EXCHANGER FOR COOLING COMPRESSED GASES. Charles N. Deverall, Buffalo, N. Y., assignor to Niagara Blower Co., New York, N. Y., a corporation of New York. Application Oct. 26, 1945, Serial No. 624,690. 2 Claims. (Cl. 257-55.)



1. In a heat exchanger for cooling compressed gas from a water jacketed compressor, an enclosing casing having opposite longitudinal walls of substantially greater horizontal length than the transverse walls thereof, a compressed gas supply pipe extending substantially the full length of one of said longitudinal walls exteriorly thereof, a compressed gas outlet pipe arranged alongside and parallel with said compressed gas supply pipe, inlet and outlet headers arranged in said casing adjacent said one of said longitudinal walls and alongside and parallel with said compressed gas supply and outlet pipes and extending substantially the full length of said one of said longitudinal walls, connections extending through said one of said longitudinal walls and connecting said inlet header with said compressed gas supply pipe and said outlet header with said compressed gas outlet pipe, a series of hairpin tubes extending in succession substantially the full length of said one of said longitudinal walls and connecting said headers and arranged with their return bends adjacent the other of said longitudinal walls, means passing a stream of air through said casing and past said hairpin tubes, means for discharging and distributing a stream of water over said hairpin tubes to wet the exterior of said tubes and to evaporate and absorb heat herefrom, and means for cooling the jacket water from said compressor, comprising inlet and outlet jacket water headers arranged adjacent and parallel one of the said transverse walls of said casing and operatively connected with the jacket of said compressor to recirculate a stream of jacket water therethrough, a series of hairpin tubes in said casing and each extending substantially the full length of the longitudinal walls thereof and connecting said jacket water headers and arranged

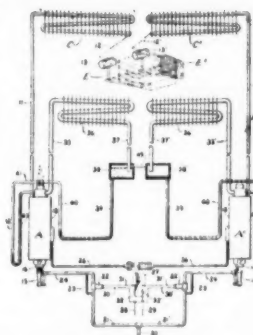
with its return bend adjacent the other of said transverse walls, said last series of hairpin being subjected to said streams of air and water to effect evaporative cooling of the jacket water therein.

2,513,043. REFRIGERATOR DOOR. Earl E. Hofstinger, Greenville, Mich., assignor, by mesne assignments, to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Application Aug. 21, 1943, Serial No. 499,473. 1 Claim. (Cl. 20-35.)



A cabinet door having a marginal recess formed in its inner face, the laterally outer side of said recess being defined by a door flange extending perpendicular to the plane of the door, a resilient gasket in said recess, said gasket comprising a main body portion and a gasket flange spaced therefrom, said gasket flange being juxtaposed to said door flange, and an ornamental channel member overlying the free edges of said flanges, the legs of said channel member engaging the respective flanges to hold the same together.

2,513,148. INTERMITTENT ABSORPTION REFRIGERATION. Curtis C. Coons, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Aug. 22, 1946, Serial No. 692,267. 18 Claims. (Cl. 62-5.)



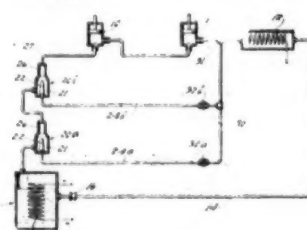
1. In combination with an element subject to alternate periods of heating and cooling; a cooling system having a heat absorbing portion in heat exchange relation with said element, a portion arranged to form a vapor lock when subjected to heat and to be heated simultaneously with the application of heat to said element, and means for applying an excess pressure to a portion of said vapor lock when the application of heat to said element is discontinued.

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Pat. 2,498,342. PEDESTAL TYPE AIR CONDITIONING UNIT. Patented Feb. 21, 1950. Thermostatically controlled air conditioning unit, consisting of a circular head housing cooling coils, a motor-operated fan, removable filter, etc., is supported by a standard and base plate adapted to rest on the floor. All wiring and piping necessary are concealed within the standard and carried to below floor level, where refrigeration unit and outlet drain are located. (Owner) Richard Petticrew, 6911 Middlepointe, Dearborn, Mich. Group 35-64-84. Reg. No. 36,801.

Week of July 4

2,513,361. METHOD AND SYSTEM FOR PRODUCING LOW-TEMPERATURE REFRIGERATION. Andrew W. Rausch, Ridgewood, N. J., assignor to Specialties Development Corp., Bloomfield, N. J., a corporation of New Jersey. Application Nov. 1, 1944, Serial No. 561,375. 15 Claims. (Cl. 62-115.)



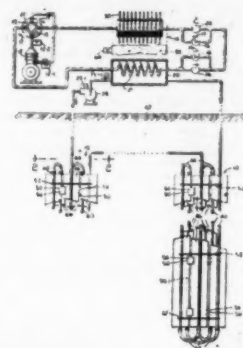
2. A method for producing low temperature refrigeration, comprising compressing refrigerant in a plurality of stages, condensing a portion of the compressed refrigerant, expanding all of the condensed refrigerant to a low pressure, utilizing the remainder of the compressed refrigerant for entraining all of the expanded refrigerant to increase the pressure of the refrigerant directly after expansion thereof, and directly recompressing the refrigerant.

12. A system for producing low temperature refrigeration, comprising a primary stage mechanical compressor having an inlet and an outlet, a secondary stage mechanical compressor having an inlet connected to said primary stage compressor outlet and having an outlet, a condenser having an inlet and an outlet, a conduit connecting said secondary stage compressor outlet and said condenser inlet, an evaporator having an inlet and an outlet, means in heat exchange relation with said evaporator, a conduit connecting said condenser outlet and said evaporator inlet, an expansion valve in said last mentioned conduit, a jet pump having an inlet connected to said primary stage compressor and a working fluid inlet, and a conduit connected to said first mentioned conduit and said working fluid inlet of said jet pump.

2,513,373. HEAT PUMP SYSTEM. Philip Sporn and Eugene Russell Ambrose, New York, N. Y., assignors to American Gas and Electric Co., New York, N. Y., a corporation of New York. Application Sept. 20, 1947, Serial No. 775,280. 11 Claims. (Cl. 62-129.)

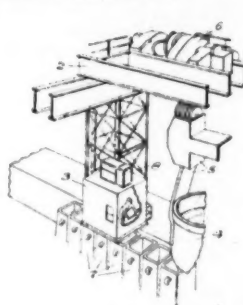
1. In a system for conditioning a medium by selective transfer of heat

between the ground and said medium; a liquid circulating system including a liquid confining ground conduit structure imbedded in ground for effecting a transfer of heat between the ground and the liquid in said conduit structure; a refrigerant circulating system including a conditioning fluid enclosure, an additional



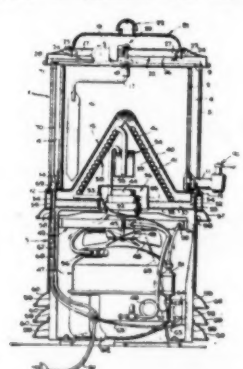
fluid enclosure, and a compressor for raising the pressure of a refrigerant fluid drawn in gaseous condition at the compressor inlet and delivered at the compressor outlet and selectively circulating said fluid in series through said two fluid enclosures as a part of a refrigerating cycle; means for maintaining said medium in heat exchange relation with said conditioning enclosure and effecting transfer of heat between the fluid in said conditioning enclosure and air passing it; liquid guide means including liquid circulating means for guiding and circulating a heat exchange liquid in series through said ground conduit structure and in heat exchange relation past said additional fluid enclosure for effecting transfer of heat between the fluid in said additional enclosure and liquid flowing through said conduit structure; and selectively operative means associated with said refrigerant circulating system for selectively causing said conditioning enclosure to operate as a condenser for the refrigerant fluid and said additional enclosure to operate as an evaporator of the refrigerant fluid in one operating condition of the system, and to selectively cause said additional enclosure to operate as a refrigerant condenser and said conditioning enclosure to operate as an evaporator of the refrigerant fluid during another operating condition of the system.

2,512,517. AIR CONDITIONING FOR CRANE CABS. Bertram B. Reilly, Ben Avon, Pa., assignor to Dravo Corp., Pittsburgh, Pa., a corporation of Pennsylvania. Application Aug. 10, 1945, Serial No. 609,978. 3 Claims. (Cl. 62-129.)



1. An industrial air conditioning unit for a room exposed to abnormally high atmospheric temperatures, said unit including two chambers, at least one of which is provided with heat-insulated walls, a heat-absorbing device in said insulated chamber, an inlet and an outlet opening through the walls of the insulated chamber, means for circulating air in a stream exiting through said outlet to said room and returning from said room through said inlet into said insulated chamber, refrigerating mechanism arranged in the other of said chambers, the latter chamber having extensive walls formed of air-filtering panels and including an air outlet, said refrigerating mechanism including a compressor, a condenser, a blower having an inlet in said latter chamber, an electric motor connected to drive said compressor and blower, and motor controls, and said blower being arranged to draw filtered air from said latter chamber and to direct such air upon said condenser and through the outlet in the wall of the chamber.

2,513,610. REFRIGERATED JUICE DISPENSER. Trevor M. Williams, Los Angeles, Calif., assignor to R. D. D. Co., Los Angeles, Calif., a corporation of California. Application June 2, 1947, Serial No. 751,755. 14 Claims. (Cl. 62-141.)



1. In a refrigerated juice dispenser including a base housing, a hollow, transparent juice container provided with an inwardly extending, conically formed bottom wall and supported by the housing, a top for the container and a mechanical refrigeration mechanism within the housing, the combination of: a removable heat extracting unit positioned below the bottom of the container and including a conical, hollow walled, sealed element containing a heat transfer liquid of low freezing point and heat absorbing expansion coils for refrigerant, said conical element extending centrally and upwardly into the bottom wall of the container; and means for connecting the ends of the coil with the refrigeration unit.

(To Be Continued)

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Japan Faces Shortage of Servicemen

Army Training Jap Civilians To Repair Refrigerators at Military Installations

TOKYO, Japan—An eight-week school program to train 61 Japanese civilians as refrigeration maintenance and repair men is being conducted by the engineer section, headquarters and service command, general headquarters, here.

The program was organized by 1st Lt. Henry C. Morris, Camp Tokyo refrigeration officer, to meet the critical need of refrigeration servicemen at various military installations in Japan.

The students, who come from army and air force bases in greater Japan, are former unskilled mechanics employed in utility shops at their home stations.

Lt. Morris said the curricula includes basic principles of refrigeration, electric motor repair, use of tools and equipment, and the installation, repair, and adjustment of both domestic and commercial refrigerators.

Lectures are based on U. S. Army technical and educational manuals. In addition to classroom lessons, practical work is demonstrated in

another classroom which is equipped with all types of refrigerators that are used by the occupation forces. Here the students are shown by actual "doing" how to locate and repair any type of breakdown that might occur in any type of refrigerator.

Col. H. A. Stewart, post engineer of Camp Tokyo, stated, "In the Far East Command, there is a tremendous problem of supplying refrigeration service to military installations and dependent housing."

"In the Tokyo area alone there are more than 5,000 refrigeration units. Most of the units now in use throughout Japan are non-standard Army equipment. There are six different types of Japanese-made refrigerators in addition to three American models."

"On top of this problem is the critical shortage of trained personnel, both U. S. Army and indigenous, to repair these units. All of these factors have resulted in a tremendous number of emergency calls for repair service."

Borthwick and Shontz Named to Field Posts For Airtemp Div.

DAYTON—Chester S. Stackpole, vice president and general sales manager, Airtemp Div. of Chrysler Corp., has announced the appointments of



C. E. Shontz

Shontz as field engineer for Airtemp Construction Corp. in the Detroit area.

Prior to joining Chrysler Airtemp, Borthwick was Cleveland representative for the American Standard Corp., sales engineer for the Cyril Bath Co., Cleveland, and a boiler inspector for the Travelers Insurance Co.

He served a total of 15 years in the U. S. Merchant Marine, the U. S. Coast Guard, and the U. S. Maritime Service. He is a licensed chief engineer and holds a commander rating in the Maritime Service.

Shontz joins Airtemp with 14 years of experience in the air conditioning contracting field. He was chief engineer at the Climate Control Co., Detroit, for two years and an engineer with James and Roach, Inc., Detroit, for 12 years.

He attended Tri-State college, Toledo, and belongs to the American Society of Refrigeration Engineers and the Refrigeration Service Engineering Society.



S. V. Borthwick



Tube Benders Compete

AT ST. JOSEPH, MO. recently H. Erlich & Sons conducted a lively contest in tube bending for local refrigeration men. The competition was staged in cooperation with Imperial Brass Mfg. Co.

LOCAL WINNERS: Paul Imley, of Gas Service Co., first place; Curtis Chambers, also of Gas Service Co., second place; and William Kennen, of Kennen Refrigeration Service, third place.

G-E Appoints Rystogi To Head Manufacturing of Household Refrigeration

ERIE, Pa.—C. A. Rystogi has been appointed manager of manufacturing of the General Electric Co.'s household refrigeration division, it has been announced by C. K. Rieger, division manager. He succeeds W. B. Hill, who died Nov. 22.

Rystogi, whose appointment as assistant manager of manufacturing of the refrigerator division was announced early last month, joined the company at Schenectady, N. Y., in 1926, following graduation from Queens University of Kingston, Ontario. Four years later he was put in charge of all refrigerator testing activities at Schenectady.

He was later advanced to general foreman and in 1939 became assistant superintendent of the refrigerator unit division. He was subsequently transferred to the vacuum tube division in a comparable capacity and in 1943 was named superintendent of

the Schenectady tube works.

In 1945 he was transferred to Erie as superintendent of the freezer section of the refrigerator division and three years later he was given charge of the unit section.

Hill had been manager of manufacturing of the refrigerator division at Erie since the war. He came with the company as a test engineer in 1909, and for 30 years was in the induction motor division at Schenectady. He was then transferred to the refrigerator division as superintendent, and except for a three-year period during the war remained in refrigerator work until his death.

He is survived by his wife and two sons.

New Revco Dealer In St. Paul

DEERFIELD, Mich.—Revco, Inc., here, has announced the appointment of Campbell-Stenson Co., St. Paul, Minn., as distributor in that area of Revco Chill Chest freezers.

Ten members of Campbell-Stenson, headed by S. E. Stenson, recently toured the Revco plant and were briefed on sales activities for the coming year.

Hope Will Do Xmas Eve TV Show for Frigidaire

DAYTON—Bob Hope will be starred in a special Frigidaire Christmas Eve family television show, featuring the guest appearance of Mrs. Eleanor Roosevelt in the role of narrator of a Christmas story for children, over the NBC-TV network at 8 p.m. (EST), Dec. 24.

The 60-minute family TV show will feature many other outstanding personalities, including Operatic Soprano Lily Pons, Movie Actor Charles Boyer, and Harpist Robert Maxwell. A traditional melodic Yuletide background for the program will be furnished by the world-famous Boy's Choir of the Cathedral of St. John The Divine.

A part of NBC's Sunday night "Comedy Hour" series, the Frigidaire show is telecast over the entire interconnected network every fourth Sunday. Each program is re-telecast to stations not equipped with cables.

Marsh Expects Addition To Be Ready by Jan. 1

SKOKIE, Ill.—Construction is well under way for a large addition to the modern manufacturing plant of Jas. P. Marsh Corp. Measuring about 225 by 75 ft., the addition will increase manufacturing space by about 17,000 sq. ft.

Although the company completed and occupied its new plant here recently, increased demand for Marsh pressure gauges, dial thermometers, radiator valves, steam traps, and other heating specialties has prompted the expanding of manufacturing facilities.

Need for more facilities has been further emphasized by the recent acquisition and development of the Electromatic line of refrigeration controls and solenoid valves as companions to Marsh gauges and testing equipment for the refrigeration field. The new addition is scheduled to be in operation by Jan. 1.

Alabama Store Has Air Cooling

MONTGOMERY, Ala.—Bon Marche, Montgomery's newest store for women, has opened at 3 Court Square. The store has York air conditioning equipment installed by Rushton Refrigeration Co. here.

For Maximum Defense Production:

Erlicher of G-E Sees Need for Effective Use of Subcontracting

NEW YORK CITY—American industry must make effective use of subcontracting if its current defense effort is to approach maximum production, according to Harry L. Erlicher, vice president of the General Electric Co. in charge of purchasing and traffic.

Speaking before a meeting of the American Management Association in New York, Erlicher explained subcontracting as the business practice of one company contracting for an over-all job and then hiring other companies to do certain parts of that job.

He emphasized that the success of this practice depends as much upon the small subcontracting firm as upon the large prime contractor.

"During World War II, the teamwork and cooperation between subcontractors and prime contractors made possible the many production miracles that are history today," Erlicher said.

Now we are once again involved in

another defense effort, and it is a matter of increasing importance that these subcontracting programs be developed. Once these programs are established, it will make possible an almost immediate expansion into maximum production in the event that industry is once again called upon to engage in full war production," the G-E executive said.

"In our over-all economy, the subcontracting system is an excellent means of spreading the benefits of large contracts on a broad geographical basis and in a minimum of time," he continued.

"This makes for minimum vulnerability in case our nation should ever be struck by a bombing attack. With multiple sources of supply, production of important war material—such as jet engines, guided missiles, gunnery systems, radar—will not be knocked out completely by the potential destruction of one area," Erlicher said.

"Both large and small companies

benefit from the subcontracting system," he pointed out. "The large prime contractor needs the specialized techniques of the subcontractor in order to augment his own production program. On the other hand, the smaller firm can participate as a member of a team in major government programs, programs which he could not handle alone because of incomplete facilities."

"Furthermore, the subcontractor in this way can avail himself of the engineering, manufacturing, and procurement 'know-how' of the prime contractor and can eventually develop himself into the position of a potential prime contractor."

As a specific example of a product dependent upon subcontractors, Erlicher mentioned the General Electric jet engine. He said that of the 25 major components of the engine, no less than 21 are produced by a total of 44 subcontractors widely separated on a geographical basis.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

EXECUTIVE—16 years engineering and manufacturing experience in the household appliance field. Seasoned in product design and development, production engineering, plant engineering, industrial engineering, welding engineering, metal finishing, factory cost control, sales engineering, purchasing and personnel. Detailed in Army and Navy ordnance procedures and specifications. Good leadership, good imagination, and a great deal of initiative. Present salary five figures plus. Will review combination salary and profit sharing arrangement. BOX 3632, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

DEVELOPMENT ENGINEERS—Engineering graduates with two or more years experience wanted for design and development engineering on expanded lines and new equipment of all types of air conditioning products including self-contained and remote type coolers, sealed and open type refrigeration compressors, oil and gas fired furnaces (and boilers), heat pumps and many others. Creative, analytical and experimental abilities with potential for long range growth are desired. Extra experience or unusual qualifications given special attention. Apply in writing, give resume of training, experience and interests to GENERAL ELECTRIC COMPANY, 5 Lawrence Street, Bloomfield, N. J.

MANUFACTURER'S REPRESENTATIVES wanted by middle west manufacturer. Complete line of refrigerated store fixtures, including latest design self-service models for supermarkets. Contact dealers, distributors and chains. Our sales program for 1951 provides for the establishment of representatives in several desirable territories in United States. Have very attractive proposal. BOX 3629, Air Conditioning & Refrigeration News.

SALESMEN AND distributors needed by New York manufacturer to promote sales of new Deluxe four cu. ft. lobby refrigerators. Exclusive territories given for complete coverage. Commission basis. For complete details write BOX 3634, Air Conditioning & Refrigeration News.

WANTED: EXPERIENCED tool and die engineers familiar with refrigerator cabinet construction. BOX 3635, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

WHOLESALE SEALED unit rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write

for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Mich.

SURPLUS SALE. New refrigeration equipment. 1500-1/2" flare brass compressor valves, oval flanged, 2 bolt type. 1 1/2" B.C., \$3.50 ea. 350-5/8" x 28" liquid receivers with valves, \$6.00 ea. 100-1 HP prominent brand air cooled condensers, \$20.00 ea. 30-2 HP prominent brand air cooled condensers, \$38.00 ea. 60-1 to 1 1/2 HP compressor bodies with flywheels and valves, \$50.00 ea. 500-2 HP compressor bodies with flywheels and valves, \$85.00 ea. AIRCRAFT PRODUCTION ENGINEERS, 1834-42 W. 59th St., Chicago 36, Ill. Phone: Hemlock 4-0500.

CLOSE OUT on prominent brand draft beer dispensers: Klub 3DP's with stainless steel doors (in original crates) \$695.00 each f.o.b. Miami. Nationally advertised ice cream freezer 5 gal. capacity, 60 gal. hardening cabinet and three horsepower compressor offered for quick sale. Send offers to AMERICAN APPLIANCE CORP., P.O. Box 88, Miami 48, Florida.

REFRIGERATOR DOORS. 3/8" by 6/8" double batten auto close doors complete with removable track heads for a 7/2" track. 1 1/2" corkboard insulation. 16 gauge metal clad. Brand new. \$95.00 each. Freight prepaid in U.S. Door height will be altered for anything up to an 11 ft. 2 in. track for \$15.00 additional. BIMEL CO., Cincinnati, Ohio.

COMPRESSOR BODIES, brand new: model #19, good up to 1-HP. @ \$45. each; includes flywheel and one service valve. Write for circular. MANN REFRIGERATION SUPPLY CO., 15 Astor Place, NYC, GRamercy 3-8000.

1/2-HP. open type units "F-12," complete with 1/2-HP standard brand motors, less receivers; brand new in original crates; specially priced at \$41.95 each. NEW YORK REFRIGERATION CO., 35 East Fourth Street, New York 3, N. Y.

FOR SALE—One used York compressor, 5 x 5, with 7 1/2-HP motor, and complete high side double pipe condenser and receiver, \$600.00. F. M. PITTARD REFRIG. SERVICE & SALES, 211 New York St., Aurora, Ill.

AIR CONDITIONERS, packaged. Prominent, well-known brand. Three ton \$640.00 and \$700.00. Five ton \$815.00 and \$900.00. All new and guaranteed. RAMSEY-BENNETT CO., 430 Huron Road, Cleveland 15, Ohio.

BUSINESS OPPORTUNITIES

ENGLISH MANUFACTURERS of domestic refrigerators either complete or hermetic and absorption type units and evaporators separately for local assembly. wishes to contact lively agents in all U.S.A. states. Make use of devaluation while it lasts. Airmail at once for free lists and particulars. LONGFORD ENGINEERING CO., LTD., Dept. A.C., Bognor, Regis, Sussex, England.

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WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS





RECOGNITION of the role played in modern refrigeration by the "Freon" refrigerants was a high spot of the recent annual ASRE meeting, with "Boss" Kettering, presenting certificates on behalf of the society to the three developers.

WHO'S WHO: John G. Bergdoll, Jr., retiring ASRE president; Dr. Albert L. Henne (who also accepted on behalf of Dr. Thomas Midgley, Jr., deceased); Prof. Robert R. McNary; John M. Lambert, chairman, awards committee; Kettering; Charles Waring; Charles R. Logan, past president, ASRE.



(Photograph by Austin Jones, Kerotest Mfg. Co.)

GUIDING ASRE activities for the coming year will be these new officers and directors: WHO'S WHO: (seated) Donald K. Tressler, treasurer; Edward Simons, vice president; Paul B. Christensen, president; Richard C. Jordan, vice president; (standing) Leon Buehler, Jr., Carl M. Ashley, Oliver C. Eckel, James R. Hornaday, D. C. McCoy, and Milton Kalischer, all directors.

'Freon' Awards Mark N. Y. ASRE Meeting

(Concluded from Page 1, Column 5) Merchants—a large refrigerated warehousing firm in New York with branches in several other cities—in 1940. His previous experience includes connections with Kroger Grocery & Baking Co. and Cincinnati Union Terminal Co. He has been chairman of the U. S. Cold Storage Advisory Committee and an advisor to the Brazilian Government.

The 1951 spring meeting of the ASRE will definitely be held in Detroit, late in May, and the 1951 annual meeting will probably be held in New Orleans, in December of 1951.

The annual dinner dance of the recent ASRE meeting in New York was marked by a tribute to the men

principally responsible for the development of the "Freon" family of refrigerants. "Certificates of recognition" were presented to Dr. Thomas Midgley, Jr., posthumously, and to Dr. Albert L. Henne and Robert R. McNary.

Awards were made by C. F. Kettering, technical consultant and vice president of General Motors Corp., and "Boss Ket" delighted his audience with reminiscences of how "Freon" was developed, sly pokes at some of the shibboleths of the engineering profession, and intimate stories of the widely respected and beloved "Midge" Midgley, who had to be talked out of the notion that a man was limited to one piece of major creative activity in a lifetime (Midgley had been principally responsible for the perfection of ethyl gasoline).

The attendance (between 800 and 900) was the second largest in ASRE history, with great interest shown in the domestic refrigerator and room air conditioner conferences.

Other officers who will guide ASRE activities during 1951 are: vice presidents, Edward Simons of San Francisco and Richard C. Jordan of Minneapolis; treasurer, Donald K. Tressler of Chicago; and the following members of Council: C. M. Ashley, Syracuse; Leon Buehler, Jr., Chicago; Oliver C. Eckel, Boston; Milton Kalischer, Springfield, Mass.; D. C. McCoy, Dayton, Ohio; and J. R. Hornaday, Muskegon, Mich.

Simons is a consulting engineer in San Francisco who has specialized in design, manufacture, and construction of cooling towers.

Dr. Jordan is professor of mechanical engineering at the University of Minnesota and at present is acting head of the department of mechanical engineering.

The new treasurer, Dr. Tressler, is a well known authority on food preservation by refrigeration, the author (with C. F. Evers) of the definitive book, "The Freezing Preservation of Foods," and is the recently appointed scientific director of the Quartermaster Food & Container Institute in Chicago.

'Zero Hour' Near--

(Concluded from Page 1, Column 5) the last hopes for a working of voluntary controls. But Price Administrator Michael DiSalle has just taken over, and has no organization to enforce price controls should they be announced immediately. It's barely possible that the President might order an immediate "freeze" of prices on certain products, hoping that the public itself would enforce such a measure. Wage controls would follow.

2. Production of civilian goods.

Production of consumer goods may be cut directly. The government may order, say, a direct reduction of 25 or 50% of whatever it may choose in the production of refrigerators, using some part of 1950 as a base period.

It is quite probable that production would have to be cut a considerably large percentage anyway because of the scarcities—and controls placed over materials. In some cases substitutes may have to be used to get any production at all—if expected bans on civilian use of such very short items as cobalt and copper are put into effect.

Price controls and restricted production would probably result in some rationing of consumer goods.

Production may further be hampered by regulation of the manpower supply, with employing and job shifting practices done through government or state employment bureaus.

Dept. Store Adds Appliances

SYRACUSE, N. Y.—A new appliance department has been opened on the street floor of Witherills department store here.

Laughna Named Assistant To Airtemp's Vice Pres.

DAYTON — Fred J. Laughna, formerly Chicago regional manager, has been appointed administrative assistant to the vice president of Airtemp Div., Chrysler Corp.

This announcement was recently made by Chester S. Stackpole, Airtemp vice president and general sales manager.

At the same time, Stackpole disclosed the appointment of Homer D. Day, formerly Boston regional manager, as manager of the Chicago region and Taylor U. Cowger, formerly special representative in the Dallas region, as manager of the Boston region.

Laughna joined Chrysler in 1933 as a clerk in the factory time office. Three years later he was promoted to assistant manager of the corporation's Australian export division.

In 1940 he moved to the Airtemp division as assistant to the merchandising manager. He remained at this position until 1943 when he was named priority director and staff assistant to handle government contacts.

By 1947, Laughna was manager of the Dayton region. In 1948 he was transferred to Detroit as regional manager and later was named manager of the Chicago region.

Day joined Chrysler in 1940. In 1946 he moved to the Airtemp division as a district representative in

the Dayton region, later becoming manager of that region. In 1947 he was named manager of the St. Louis region. This year he was transferred to Boston as regional manager.

Cowger joined Airtemp in 1947 as a district representative in the New Orleans region. In September of the same year, he was promoted to manager of that region.

In 1949 he returned to the home office to become sales manager of Stokol Stoker Co., a subsidiary of Chrysler.

Owners Praise Freezer Performance In Disaster

PHILADELPHIA — Freezer owners who endured the heavy snow storm that engulfed the eastern states recently and suffered from interrupted electrical service were enthusiastic over the performance of their freezers during the emergency period, reports to freezer manufacturers have indicated.

Several manufacturers have said that they have received no reports of food spoilage or service troubles from freezer owners since the storm.

Henry T. Paiste, vice president of the Philco Corp.'s quality control and service division, said that Philco has received many letters telling the company that freezer owners have been pleasantly surprised by the performance of their Philco units while power was cut off.

One letter from New Jersey indicated that there was no food spoilage after the freezer had been without power for 70 hours. A Long Island housewife said her freezer had been without power for 37 hours and no food was damaged.

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is better than
a whole horse



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